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# An Address
ON
# FLAIL JOINTS AND THEIR TREATMENT.

DELIVERED TO THE AMERICAN COLLEGE OF SURGEONS, OCTOBER, 1919.

BY
SIR ROBERT JONES, K.B.E., C.B., M.Ch.,
F.R.C.S.Eng., Irel., and Edin., F.A.C.S. U.S.A.

ONE of the common products of the results of war injuries is the flail joint; in other words, a pseudarthrosis which is of very imperfect function, because the bones forming it do not come in contact, and, in consequence, the lever is imperfect because it has no fulcrum. The greater number of these disabilities are the direct results of excisions deliberately performed at casualty clearing stations or base hospitals. They were performed in order to save the limb from amputation, or the patient from death by minimizing local sepsis and preventing general sepsis. Joints are difficult to drain, and the excision simplified the immediate problem. The only competent judges of the necessity of these measures were the surgeons at the front, upon whom rested so many grave responsibilities. It is our duty to recognize this, and to try to make suggestions for the immediate and later treatment of these loose joints in order to minimize the loss of function.

It is well, however, to realiae, as judged from cases which have arrived at our centres, that upon the type of resection largely depends good or bad function. Cases of so-called limited resection have resulted in better function than where the excision has been extensive. Furthermore, cases in which the sepsis has been overcome and the bones allowed to remain in position have resulted usually in very good and firm ankylosis with excellent function if the position of election has been maintained. There is no reason why any joint should be allowed to heal at functional disadvantage. This, however, is even yet not sufficiently appreciated. I draw attention to this, not as a matter of adverse criticism, but in case one may be tempted sometimes to excise too much bone, or to forget that many most excellent results are chronicled where excision has not been resorted to.

The flail joint may follow—

(*a*) As a direct result of excision.
(*b*) The removal of large comminuted masses of bone.
(*c*) The direct loss of bone from missile.
(*d*) The extrusion of necrosed bone during sepsis.

## METHODS OF PREVENTION.

In considering the prevention of flail joints we have to bear three principles in mind: (*a*) The extent of excision should be strictly limited, subject only to conditions of safety; (*b*) the extension applied should be very moderate; and (*c*) ankylosis should be aimed at rather than mobility.

### (*a*) *The Limitation of Extent of Excision.*

This is very important. Muscular attachments which have important influence in maintaining good function should be spared where possible. The tuberosities of the humerus, the nerve supply of the deltoid, the condylar attachments of the muscles governing the elbow, the triceps expansion, the biceps insertion, the coronoid, and, if possible, the whole or a portion of the olecranon should be preserved.

Again, we should endeavour to retain as much width of the lower end of the humerus as is possible, in order to allow the surgeon to restore leverage later.

If it be impossible to leave the important muscular attachments *in situ*, it may be possible to chisel off the portion of bones to which the muscles are inserted—such as the olecranon, tuberc e of radius, coronoid process, and the tuberosities of the humerus.

### (*b*) *Extension should be Moderate.*

We should strictly limit extension both in extent and time. I have seen several cases in which after excision of elbow a Thomas arm splint has been applied for three months and more with separation of the joint surfaces for many inches. The extension should be strictly limited to the urgent needs of drainage. Strong extension of a limb where the joint has been excised obstructs free drainage. The extension, if necessary at all, should be of the lightest kind and maintained for the shortest period possible. An abducted shoulder and a flexed elbow admit of excellent drainage. In the case of the shoulder and of the elbow the dependent position of the arm and forearm permits of pus tracking down the muscular planes.

### (*c*) *Ankylosis.*

The rule should be to aim for ankylosis in the best position for function. We need not again enter into the arguments for and against mobility. The fact that we aim for ankylosis does not mean we shall attain it. We very rarely can, but the effort leaves us the best possible result for future reconstruction. The rule, therefore, for the surgeon at the front should be that so soon as possible he should place the bones as near together as he can, and in the best position for future function, whether pseudarthrosis or ankylosis occur.

## TREATMENT OF THE FLAIL JOINT.

The flail joint as we meet it is practically useless from the point of view of function, and it demands mechanical or operative treatment or a combination of both.

Treatment may consist of (*a*) removal of necrotic bone and scar tissue, (*b*) postural treatment, (*c*) operative attempts at improved pseudarthrosis, (*d*) production of ankylosis, (*e*) retention in mechanical apparatus.

### (*a*) EXCISION OF SINUSES, SCARS, AND INFECTED BONE.

A fair proportion of flail joints—especially the shoulder—are infected and discharging. Where it is possible they should be treated as in the case of osteomyelitis elsewhere, by excision of sinuses, scars, and infected bone. Whether operated upon or not, the bone surfaces should be approximated and retained in the functional position. A proportion of cases take in their slack and ankylose, or a much firmer pseudarthrosis results. The shoulder and elbow are the joints most responsive to this treatment.

### (*b*) POSTURAL TREATMENT.

When all wounds are healed the shoulder should be placed in the functional position either by means of an abduction splint or an angular elbow splint or in plaster. The latter method lends itself very well to these two joints, and gives the much needed stability. The bones should be insinuated into juxtaposition to each other without crumpling the soft tissue between them. Immobility should be secured for at least three months.

If the muscles governing the joint retain power, the after-treatment must be carefully conducted. In the shoulder the upper portion of the plaster support should be removed, so that the arm rests on the gutter-shaped under part of the case. The patient should be allowed liberty to exercise his deltoid, and when he can lift it slightly from the case the arm can be brought a little nearer to the side and fixed in an abduction splint whose angle has been lessened, and a larger range of movement may be allowed to the scapula and humerus. The arm is still further lowered until it can be safely dropped to the side.

If the pseudarthrosis is bony or short fibrous, the shoulder blade becomes the joint. If there is free mobility, the deltoid may be trained to lift the arm. This it does by raising the lower fragment and drawing it against the axilla, the result being quite a useful functioning joint. The elbow, when it is removed from the sling, should be more acutely flexed, and the forearm slung by the wrist, in order to strengthen the biceps and brachialis anticus. As these muscles gain in power the forearm can be gradually lowered until it reaches a right angle. For a considerable time it should be kept from further extending, in order to retain the power gained by the flexor muscles. Such shoulders and elbows, however, are always weak, and in the elbow a considerable lateral instability results. A hinged splint with a shoulder cap will be of advantage in the case of the unstable elbow.

### (*c*) OPERATION TO IMPROVE PSEUDARTHROSIS.

Attempts may be made at improving the stability of weak pseudarthrosis by operation. This should only be attempted when the muscles governing the joints may be reasonably expected to recover strength. The operation

consists in removing intervening scar tissue and bringing the bone into contact. They may be kept together by means of kangaroo tendon or other absorbable material. In the case of the humerus a bone graft may be used to lengthen the shaft, but we will discuss the position of bone grafting later.

### (*d*) Ankylosis.

Ankylosis of the flail joint, often a difficult matter, will be discussed in relation to the joints involved.

#### *Flail Hip.*

If the femur has merely been deprived of the head and neck all that is needed is to correct any deformity which obstructs walking—such as adduction. This can be done by division of the adductors. If the limb cannot bear weight a jointed calliper splint should be applied. This supplies an artificial lever, and the muscles governing flexion resume more of their function. With such a splint the patient can walk long distances with ease and strength. When the trochanter and part of the shaft are also lost this splint proves very useful. Bone grafting, as usually understood, is of no use in the upper part of the femur. Ankylosis in the case of limited excision of the hip is of no advantage, and certainly does not justify the severe operation which it would necessarily entail. If the trochanter and part of the shaft has been removed, the most likely method of obtaining ankylosis is to take a long strip of femur half its thickness and slide it into a prepared acetabulum. The slide should rest for two or three inches in the groove of the femur. Such a graft has a much better chance of life than when introduced from another part of the body. A thin graft removed from elsewhere never develops strength in the adult and will refracture.

#### *Knee.*

Ankylosis of this joint is the only practical treatment, and if the bones are in good condition nothing is needed excepting to saw the ends and fix with screw or nail. If there is wide separation, however, and the ends have been associated with sinuses, union is not easily secured. In such a case it will be necessary, after sawing the ends of the bone, to bring a bulky sliding graft from tibia or femur and wedge it in at right angles to the line of the joint. This is a method I have often employed in secondary excisions where union has not been firm. If there is shortening to the extent of many inches the patient may prefer an artificial limb, and he may supply arguments worthy the surgeon's consideration. If an operation is refused, the calliper splint and a high boot will afford the best help.

#### *Ankle.*

Flail ankle is so rare that I cannot recall an instance as the result of a war wound. Should it be met with, the treatment will lie between an ankylosis or an amputation.

#### *Flail Shoulder.*

I have already described the postural treatment of flail joint, and have mentioned that a successful pseud-arthrosis does not often occur in the case of the shoulder. In a limited number of cases where the head of the bone only has been removed, and where the muscles attached to the tuberosities and the deltoid are functioning, abduction and carefully conducted muscle re-education may result in a joint preferred by some people to an ankylosis. The very flail joint can only be approached with confidence if an ankylosis be aimed at. I have seen certain cases where a graft of bone has been introduced to lengthen the shaft—in one case the upper part of the fibula—with results which I would call promising. I have also seen cases in which these grafts have refractured (they never unite again), and others in which they have been absorbed, leaving the patient in a worse plight than before. The result of my experience is that I would prefer adopting a more certain route, such as the production of ankylosis by end-to-end apposition.

Captain Platt has described a method of bone transplant which may still be considered under trial. It is an attempted reconstruction of the head of the humerus in order to obtain a fulcrum for scapular movement. He takes a large autogenous graft from the tibia, shaped like a wooden mallet. The shoulder-joint is exposed, the upper end of the humerus cleared, and the handle of the graft driven into the medullary cavity. The wide upper end is now brought into contact with the glenoid cavity, which has been completely bared as in an ordinary arthrodesis operation. On occasions he has used a long fascia lata sling carried through the upper end of the humerus, the upper margin of the glenoid, and the acromion process. After completion of the operation the arm is placed in abduction until stability is secured.

Many operations for fixing the shoulder have failed because the surgeon has been content to bare the glenoid and freshen the humerus. This is usually insufficient. If the deltoid has been hopelessly deprived of function, an excellent exposure can be obtained by turning back a flap of skin and exposing the upper part of the deltoid; this muscle can be cut across or reflected upwards as a flap. The joint is fully exposed, and the glenoid can be gouged as deeply as possible. The base of the coracoid and the acromion should be chiselled, and the bony flaps left attached. The upper part of the humerus should be exposed and sawn through, and a groove made into the upper part of the shaft for the reception of the acromion. The humerus is pushed into the glenoid and the acromion sawn through and received into the groove prepared for it. The glenoid, humerus, and acromion should be fixed in contact by kangaroo tendon and placed in the functional position.

Major Naughton Dunn has pointed out to me that if there be much shortening of the humerus the functional position will vary from that which I have advocated. If there is no loss of bone the position of selection is just in front of the coronal plane of the body, while if there is much loss of bone it will be necessary to fix it in a plane posterior to this, otherwise in flexion of the elbow the hand will pass beyond the mouth. It is advisable before fixing the shoulder to test the position by flexing the elbow and observing the function. Dunn has described the operation he performs; it is very similar to that already mentioned. He makes an anterior incision, freshens and exposes the upper end of the humerus by removal of the sclerosed ends in one or two positions. These fragments of bone are retained with their blood supply intact to form new attachments and help to strengthen the arthrodesis. The under surface of the acromion is removed by a gouge from without inwards to opposite the upper margin of the glenoid cavity. This partially detached piece of bone is then folded into the space between the under surface of the clavicle and the upper margin of the glenoid cavity. The acromion process is divided about one inch from its extremity so that it may be brought into direct apposition with a prepared surface on the shaft of the humerus. The prepared shaft of the humerus is impacted into the glenoid cavity and maintained there by suture.

After all operations to obtain ankylosis the arm should be immobilized for three months.

Before the arm is ankylosed care should be taken to ascertain whether the scapula is mobile, also whether it retains its normal position in regard to the humerus. This is extremely important. The success of the operation depends on sound ankylosis and a mobile scapula. If the scapula is fixed the result of the operation is a tragedy, as the patient has a fixed abducted shoulder which he cannot lower. I have seen several such results.

After operation great care should be taken to exercise and re-educate the scapular muscles. The range of scapular movement in the young soldier increases for many months.

#### *Flail Elbow.*

Two methods of treatment are available here: (*a*) the non-operative, and (*b*) the operative. How can we predict the case in which it is impossible to bring about stability without operation?

The non-operative method consists of the approximation of the bone ends, counteracting the effect of gravity, and in muscle re-education and development. It also often involves the wearing of apparatus.

The operative treatment has one of two ends: (*a*) the formation of a bony ankylosis, or (*b*) the provision of a mobile arm with stability.

The non-operative treatment is only likely to be successful where the bone ends are broad. If the bone ends are pointed and distant, non-operative treatment cannot be successful even with good muscular control.

*Ankylosis of the Elbow.*

Many surgeons have described how difficult it is to obtain union in flail elbows. Failure is probably due to a technique which trusts too much to limited surfaces of attachment. There is so little vitality in the ends of the bones that a mere freshening with apposition and fixation will often fail to accomplish union. When nails are driven in the result is no better and further interference with blood supply is threatened.

The operation to be desired is one whereby a larger apposition of raw surface is secured. This can be effected at times by splitting the ends of the bones, and in this way widening them. Naughton Dunn has described to me the scheme he adopts with results I know to be satisfactory. He makes a subperiosteal exposure of the fragments to within an inch of their extremity, and completes this exposure by partially detaching a portion of bone triangular in shape from each side of the extremity of the shafts of the humerus, radius, and ulna, leaving them anchored by periosteum. This permits of an enlarged area of bone apposition and more productive osteogenesis.

Several such operations are practised with variations in detail. The principle remains that pieces of bone should be so arranged as to allow of good apposition.

*Pseudarthrosis of the Elbow.*

We need not now discuss pseudarthrosis of the elbow when this operation is performed for mobilizing an ankylosis. It is a different proposition when we wish to stabilize a flail joint and yet permit of voluntary movement. A necessary condition to the success of this operation is a sound muscular control. If this is not present the operation should never be performed.

Captain McMurray has had a successful series of cases by employing a scheme the object of which is to secure movement with improved lateral stability. A vertical incision is made over the posterior aspect of the joint of a length varying with the amount of bone missing, and extending about 2½ in. over the upper end of the ulna and the lower end of the humerus.

The lower end of the humerus is completely cleared from the overlying tissues for a distance of 2 in. The upper end of the radius and ulna are likewise cleared completely to the level of the orbicular ligament.

It is generally found that the olecranon has been removed at the time of wound or operation, and if this be so the lower end of the humerus is made into the shape of a wedge by removing bone laterally, thus:—

A wedge of bone is removed from the neighbouring sides of the radius and ulna, as shown above; this wedge is larger in extent than is necessary to contain the wedged lower end of the humerus. A flap of fascia is now prepared for placing round the lower end of the humerus to prevent any adhesions between the bones. This flap may be taken from the tissues in the neighbourhood, if these have not been destroyed, or it may be taken from the fascia lata of the thigh. The question whether this flap is free or pedunculated does not seem to be of any importance as both act equally well. Whichever flap is taken is sutured in position round the lower end of the humerus, which is then placed deep into the space between the upper end of the radius and ulna so that the ends of these bones project behind the humerus. A drill is then passed through the three bones in this position, and the relative position of the bone maintained by means of kangaroo tendon. If the triceps has lost its attachment to the upper end of the ulna, it is now freed from adhesions and attached securely to the upper end of the bone.

If the olecranon is present at the time of operation the wedge from the radius and ulna is taken at the same spot as before and the olecranon is left projecting back from the humerus—so increasing the power of the leverage which is obtained at the elbow-joint.

The arm is fixed in abduction, and voluntary movements encouraged after three weeks. After eight weeks the arm is allowed down by the side, and the tendency to stretching of the biceps is prevented by the wearing of a sling.

In order to render the joint less flail Captain Platt has devised an operation which consists essentially of binding the bone ends together by strips of fascia lata. After exposure and removal of scar tissue he drills the lower end of the humerus and the upper ends of the radius and ulna, and the artificial ligaments are carried through in planes at right angles to each other and tied securely—the knots being fixed by sutures—and the ends of the ligaments are then fixed to the remains of the joint capsule and the muscle insertions in this region. The limb is slung up in 40 degrees flexion, and muscle education is begun at an early stage. The training is begun in the position of abduction of the shoulder. The stability of the elbow is considerably improved by the operation.

The final results in these cases are very promising. Pronation and supination are lost, but, at a later date, if the ankylosis is firm, operation may be undertaken with a view of restoring this movement. This operation, practised by McMurray, is successful. The bony expansions of the V incision into radius and ulna prevent lateral mobility. If the operation fails an ankylosis in good position may be expected.

*Flail Wrist.*

This is so rare that I need only say that ankylosis should be performed if thereby function is likely to improve.

In attempting to produce ankylosis of any flail joints we often succeed in producing a satisfactory pseudarthrosis. When we directly aim at a pseudarthrosis we are in danger of losing stability.

STIFF JOINTS.

The stiff joints following injuries of war have to be approached with greater respect than in the case of those we met with in pre-war days. Latent sepsis so often present is almost a new phenomenon. The stiffness due to immobilization is far more intractable.

*Extension of the Knee.*

A fracture of the femur in pre-war days, either simple or compound, retained in a Thomas splint used to leave the knee-joint only temporarily stiff; a fortnight of massage and gentle movement was sufficient to restore mobility. This is not the case in fractures we are now dealing with, for the rigidity is much more pronounced, and a longer time is required to overcome it. Recent improvements in the Thomas splint, and the introduction of the calliper ice tong extension, make it quite unnecessary to keep the knee immobile for months, so that in future we should not have to face the problem of extreme rigidity. I will not deal now with the ordinary light periarticular adhesions which require only simple handling.

*Gradual Flexion of the Knee.*

Rigidity is sometimes so marked that surgeons have failed to make any impression upon it by attempts at forcible flexion—a procedure of doubtful wisdom and often very hazardous. Such cases will often yield to the influence of gravity and gradual pressure. A long posterior splint is applied, bent to an angle of 15 degrees. The extended limb is bandaged to this, and when the knee yields sufficiently to rest upon the splint it is allowed to remain there in order to permit the strained tissues to calm down. The bandage is then removed from below the knee and voluntary efforts are allowed towards extension. When this is secured, and not until then, the splint is bent a few more degrees, and the procedure is repeated. This plan is continued until sufficient flexion is obtained to enable the joint to be more vigorously exercised first by active and then by passive movements. Before this is done there must be assured the power of full *voluntary* extension. If the knee becomes firmly fixed in its new angle of flexion it is sufficient proof that this method of attack is premature or useless. In certain cases under anaesthesia a limited flexion can be recovered, but any attempt at increasing this is so resisted by firm tissue that the surgeon has to desist. If such a limb is fixed by splint or plaster in the newly gained position, and kept fixed for a week or so, a further gain can often be secured under anaesthesia on a second occasion. This can be repeated until a fair range

of movement is acquired. The fixation of resisting tissue under strain renders such tissue less obstructive. A recognition of this fact will prove very helpful to us in dealing with obstinate stiffness.

If when flexion is obtained in this way the limb remains firmly flexed and resists attempts at extension, we are not making progress. If on extending it again it becomes rigid in extension after reasonable rest, we may be sure that we are being met by tissues which undergo reaction of a type that does not admit of further force.

When strong periarticular adhesions are thus stretched, a certain transient degree of stiffness in the new position will occur, but after a short course of massage and voluntary effort this will disappear. The advantage of gradual stretching over rapid tearing is that haemorrhage and excessive inflammatory reaction are avoided. There is a still further and very vital reason why excessive force should not be applied; instances have happened in which the patella tendon has been torn or the patella fractured, and I have met also with cases in which the quadriceps has been ruptured.

I am convinced that in injuries of the knee, directly or indirectly resulting from war missiles, forcible manipulation has only a very limited field for application. It should be confined to the lighter type of so-called periarticular adhesions; and, as I have suggested, in the more rigid type of case the aim should be, if anaesthesia be employed, to obtain only a few degrees of movement in successive stages, with intervals of complete rest.

*Operation.*

Surgical intervention may be necessary in cases of (*a*) muscular adhesions to bone; (*b*) scarring and shortening of capsule; (*c*) intra-articular adhesions due to arthritis or fracture; (*d*) fixed patella; (*e*) bony ankylosis of femur and tibia.

*Muscular Adhesions.*

Muscular adhesions interfering with flexion are generally associated with the quadriceps. If the muscle is firmly bound down, the rigidity of the knee is very marked. These are the cases in which surgeons point out that after forcing the knee they have gained a slight degree of movement. If the knee is examined, however, it will be found that they have either lengthened the patellar ligament or sometimes ruptured it, and, although the knee will bend a few degrees, it cannot be voluntarily extended. These cases should never be subjected to forcible movement. They have often been associated with a compound fracture, or suppuration in muscle sheaths, or with osteomyelitis.

The operative treatment for adhesions of quadriceps is to detach the muscle from its adhesions, and to place a living flap of fat and fascia between it and the bone. The knee should be kept flexed during healing and the muscle subjected to electric stimulation.

Certain cases have suffered losses in muscle structure which have resulted in shortening, and operative elongation should be considered.

*Shortening of Capsule.*

The *x*-ray picture in a case with shortening of the capsule may exhibit a perfectly normal joint, and the patella be fairly free. There is no undue tension of the ligamentum patellae, the quadriceps is not adherent, and yet the knee is firmly rigid. With these symptoms we can safely make a diagnosis of tense or contracted capsule. This should be treated first of all on the lines laid down in regard to severe periarticular adhesions, and if the rigidity still persists operative interference may be called for.

*Operation.*—A curved incision should be made from the femoral attachments of the internal lateral ligaments to the tubercle of the patella. The capsule is exposed, and a curved incision made in it, extending from the anterior aspect of the ligament. The patellar tendon need not be divided if it does not obstruct; if it does it can be elongated. The operation is simple, and should involve no risk.

*Intra-articular adhesions* are treated by gradual flexion under careful observation. If signs of severe inflammatory reaction should appear, treatment by this method should cease. A little pain and some effusion need not interfere with the stretching. Severe pain, with rise of temperature and effusion, should warn us of trouble.

*Adhesion of Patella to Bone.*—The patella is sometimes bound down by adhesions to the femur, and this alone will cause fixation of the knee. If the adhesions are light they will sometimes yield to manipulation and exercise; if not, the bones may be freed by operation. Where the attachment is bony, separation may be effected by chisel, and a flap of fascia, or the bursa of the patella, introduced between the bones. If the attachment is extensive and rugged the bones should be slightly excavated and made smooth. Horsley's wax can be rubbed into the femoral erosion, and the bursa laid upon the surface of the patella.

*Complete Ankylosis.*—If ankylosis is complete and the bones are in good position no surgical interference is needed.

*Arthroplasty.*—In my opinion, arthroplasty of the knee has no place in military surgery. Cases have been met with in which a gunshot wound, not complicated by sepsis, has caused very limited ankylosis. Such conditions can be operated upon with advantage if the joint is otherwise healthy. It is better not to introduce flaps of tissue, but, after chiselling through the obstruction, to excavate the attachments, making them saucer-shaped, rubbing in Horsley's wax as recommended by Stiles, and if possible keeping the knee in any position whereby the raw surfaces are least in contact. Ankylosis may occur, however, in bad position. This may present flexion deformity, lateral deviation, genu recurvatum, or a combination of all these.

*Flexion of the Knee.*

If the knee is flexed and sound and painless, with no more than 30 degrees of flexion, it is best to leave it alone. If the flexion exceeds that, an operation may be considered, but the advantages and disadvantages should be fully discussed with the patient.

*Operation.*—A wedge of bone should be removed from the front of the knee, so that when the bones are wedged together firmly the knee should remain at an angle of about 15 degrees.

I have always advised placing the knee-joint fully extended while we wait for an ankylosis to occur in inflammatory conditions, and also where we have to perform a classical excision. To keep such knees in a slight degree of flexion is often difficult and jeopardizes firm union. When, however, we exsect a wedge, these difficulties do not arise, and an angle of 15 or 20 degrees gives a very useful limb from the point of view of function. Supracondylar osteotomy, unless planned to avoid recrudescence of sepsis, is inadvisable, as the result is never so artistic, more especially if the flexion is marked.

*Lateral deviation* should be treated as in a case of genu valgum by supracondylar osteotomy.

*Genu Recurvatum.*

This is best treated by supracondylar osteotomy. It is not necessary to remove a wedge. Great care should be taken to prevent sagging at the site of incision. The success of this operation depends entirely upon keeping the femur bowed forwards at the site of the osteotomy incision. After excision and osteotomy a calliper splint should be worn for three months.

We must remember that sound bony ankylosis in a good position is much more useful than an unsound ankylosis with limited and painful movement. Such an unsound ankylosis often has to be transformed into bony fixation. Bone grafting, although it may be useful in fixing a flail joint, is never needed as an accessory to completing the fixation of a painful fibrous flexed ankylosis. Stability of the knee yields better function than a flail pseudarthrosis.

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SOME experiments reported to the American Chemical Society by Hirschfelder, Lang, and Feaman showed that the smoke coming from a given weight of tobacco in a cigar, cigarette, or pipe varied somewhat, but not very greatly, in its poisonous action on frogs. When the same weight of the same sample of tobacco was smoked as a cigar, in a pipe, or as a cigarette there was very little difference in the poisonous quality of the smoke, but usually that from the cigarette was less poisonous. This is attributed to the fact that much more tobacco is being converted into smoke in a given time in a pipe or cigar than in a cigarette. The burning occurs chiefly at the surface, and cigars have about four times the cross section of cigarettes, and pipes may have ten times. Cigarette smoking, if the smoker does not inhale, is the lightest form of tobacco smoking.

# The Lettsomian Lectures

ON

# TUMOURS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON,

BY

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*(Abstract.)*

## LECTURE I.—FIBROID TUMOUR COMPLICATING PREGNANCY, LABOUR AND PUERPERIUM.*

THE notes of thirty-seven cases were given illustrating the following points: First, that in a large number of cases of small tumours patients pass through pregnancy and labour without difficulty. Even in the case of large tumours—some as large as an adult's head—no difficulty may arise. This is illustrated by eight cases. The danger of pedunculated reniform tumours becoming rotated and causing inflammation is illustrated by a case. Three cases of retroversion and retroflexion of the pregnant uterus produced by fibroids, one of acute anteflexion, and two of inversion of the uterus were mentioned; in seven cases submucous tumours were removed after childbirth or miscarriage by enucleation through the os uteri. In these cases, although sepsis occurred, hysterectomy was not necessary. The lecture was illustrated by numerous diagrams made from tracings of tumours on glass, showing the evolution and involution of the tumours. Three fatal cases were described, one from nipping of the ileum between two pedunculated subperitoneal fibroids; the second from twisted infected subperitoneal reniform tumour; the third was infected with *Bacillus welchii*, and died of acute sepsis after Caesarean section. The after-histories were given in many cases, extending in some instances for periods as long as twenty-five years.

### *Frequency.*

Fibroid tumours complicating pregnancy are quite common, though very divergent opinions have been expressed by eminent obstetricians on this point. I think it may be stated with an approximation to accuracy that fibroids occur about once in 150 pregnancies.

### *Age.*

Bayle, in 1813, wrote that "fibroids scarcely ever appeared before the age of 30 years," but were present in nearly every woman over 40 who had preserved the physical signs of virginity; and Virchow stated that he had examined the corpses of few old virgins in which fibroids were not found, although in many women who had borne children the uterus remained free from them even in extreme old age.

Fibroids rarely occur before the age of 25, and are practically unknown before puberty. The slow growth of these tumours, their occasional occurrence at an early age, and the severe dysmenorrhoea they cause years before they become manifest clinically have led to the suggestion that they are of congenital origin; but Essen-Möller has examined the uteri of 20 fetuses and sucklings, and I have examined the uteri of 100 stillborn girls without finding any sign of myoma.

Taking the ordinary period of woman's fertility at thirty years, we may recognize that in the first ten years during which she may become pregnant she is extremely unlikely to have a fibroid, and that only in the next twenty years is she liable to both. These facts invalidate most of the voluminous statistics of sterility and abortion in women with fibroids. These tumours have a certain influence in causing sterility and abortion, but it is slight. On the other hand there seems to be reason to believe that sterility favours the occurrence of fibroids, and that regular child-bearing and suckling to some extent prevent their occurrence.

### *Effect of Pregnancy on Fibroids.*

When a patient with fibroids becomes pregnant the tumours usually increase in size owing to oedema, hypertrophy, and hyperplasia; the muscle cells become greatly hypertrophied, often swollen and sometimes vacuolated and occasionally developed into large cells resembling the decidual cells of the endometrium (Gordon Ley). The development of the tumours varies; usually they enlarge; sometimes no increase is noticeable; occasionally they appear to diminish; their shape is apt to become flatter and their consistence softer than in the unimpregnated organ. They may become more prominent as pregnancy proceeds, and alter their shape to clinical examination owing to change in their location or axes. They may become fixed by impaction in the pelvis or by inflammation resulting from mucous degeneration, necrobiosis, or infection. The necrobiotic fibroid is either grey or pinkish-grey or red (usually of a dusky tinge)—the so-called "red degeneration," which is not confined to the pregnant uterus, and in my experience is quite as common in the unimpregnated. Degeneration of the fibroid is sometimes accompanied by degeneration of the uterine muscle, which may be more markedly affected than the tumour. The degenerated fibroid may be sterile or may be infected; occasionally it suppurates, especially in the puerperium. It would appear that the degenerated or cystic fibroid forms a good cultivating medium for micro-organisms which may be dormant during the pregnancy. I have found an abscess containing a pure culture of streptococci in the centre of a fibroid in a virgin who gave no clinical sign of its presence except a cachectic appearance; it seems, therefore, that infection of degenerated fibroids may occur from the blood stream. The ordinary route of infection by the vagina often leads to necrosis of submucous tumours. Calcification sometimes occurs in fibroids complicating pregnancy, whether the tumours are of uterine or ovarian origin.

*After labour* the tumours usually diminish in size and alter in shape owing to their rearrangement in the emptied organ. The subperitoneal tumours sometimes do not diminish very markedly in the puerperal month. Their apparent rapid diminution is rather due to increased difficulty of examination.

CASE 12.—*Large Fibroid: Natural Delivery: Slight Involution after Labour.*

S. H., a nullipara, aged 36, had a large tumour in the upper right wall of the uterus. She had a slightly contracted pelvis, the diagonal conjugata being 4½ inches. On this account labour

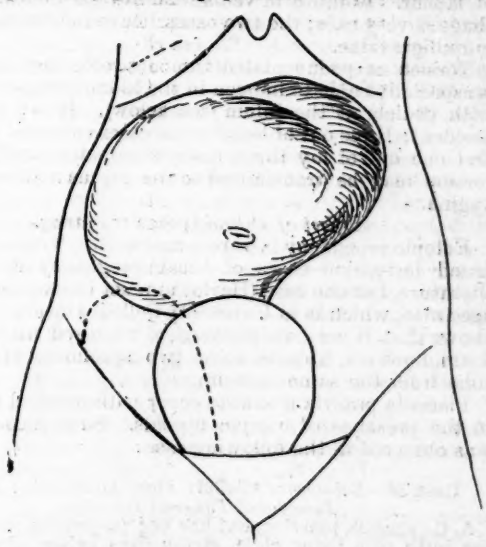

FIG. 1.—Case 12. Immediately after labour; showing tumour larger than an adult's head. The dotted line shows distended bladder.

was induced by bougies and the patient was delivered naturally of a child weighing 8 lb. 1½ oz. Both mother and child recovered. The fibroid underwent only slight involution (from 9¼ in. by 6¼ in. to 8¼ in. by 6 in.) in a fortnight after labour.

CASE 6.—*Large Fibroids: Natural Delivery: Apparent Disappearance of Tumours Fourteen Years Later.*

T., aged 42, married eight years, never previously pregnant. Was sent to me by Dr. Pearse of Ripley on April 26th, 1905. She had complained of pain in the right side of the abdomen for the last two months. She was nearly five months pregnant, having last menstruated at the end of November. Menstruation had commenced at the age of 15, was always regular every four weeks, lasting three days, and being preceded usually by pain.

The uterus was much larger than it should be owing to a

* Delivered February 2nd. The full text contains notes of 37 cases.

fibroid about as big as a fetal head and a larger one as big as a cocoa-nut in the right cornu (see Fig. 2).

The child, a girl, was delivered alive (a breech presentation) by Dr. Pearse on October 2nd, 1905. The mother made an excellent recovery. The uterus contained such a large mass of fibroids that on the fourteenth day of the puerperium it

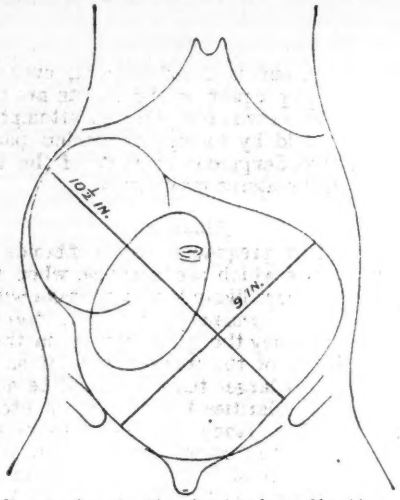


FIG. 2.—Case 6. Showing two large fibroids.

measured 10½ in. transversely and reached up for 1½ in. above the umbilicus.

Fourteen years later, on November 18th, 1919, mother and child were very fit and well in every respect; the child well developed and plump. The mother had not been pregnant again. Menstruation continued to be regular till 1911. Since then (when she was 50 years of age) she had "seen nothing."

Since fibroids undoubtedly in some cases undergo great diminution, they are supposed occasionally to disappear after labour; Olshausen's cautious opinion is that it is "not altogether impossible."

In view of the occurrence of rupture of cystic fibroids in the unimpregnated, of which I have seen an example, it is remarkable that there does not appear to be recorded a case of rupture of the pregnant uterus before the onset of labour. Rupture of veins with intraperitoneal haemorrhage is very rare; the two cases I have met with occurred in nulligravidae.

Torsion of pedunculated tumours sometimes occurs; it is especially liable to happen in the kidney-shaped tumours with pedicle at the hilum (see below). It is a dangerous accident; three out of twenty-one cases collected by Troell and one out of my three cases terminated fatally. This torsion may be transmitted to the uterus and even to the vagina.

*Effect of Fibroids on Pregnancy.*

Ectopic pregnancy is rarely met with. Troell, in 1910, found forty-nine cases of tubal pregnancy recorded in literature, but one case (Harley's) must be excluded, as the specimen, which is in University College Hospital museum, shows that it was an instance of ruptured uterine horn. I am, however, able to show two specimens of ruptured tube from the same museum.

Placenta praevia is said to occur with unusual frequency in the presence of uterine fibroids. Such a combination was observed in the following case:

CASE 32.—*Submucous Fibroid: Placenta Praevia: Sepsis: Removal of Tumour: Recovery.*

A. C., aged 35, married, had had one pregnancy, resulting in the birth of a living child, eleven days before admission on July 21st, 1910. Three days before delivery she began to pass large clots and on the day before delivery she had a severe attack of haemorrhage (placenta praevia). Version was performed and a living child delivered. During the following week she had several attacks of shivering with high temperature (104°). I saw her in consultation on the eleventh day; the uterus was large and hard and reached 8 in. above the pubes. On examination through the os uteri a submucous fibroid as big as a fist could be felt on the right side. An offensive bloody discharge was present.

Vaginal douches of iodine solution were given, and on July 30th the cervix was dilated with Hegar's dilators and the fingers. The tumour was seized with Doyen's cutting forceps and removed in pieces; the base was very adherent, and in pulling on it the uterus was inverted. This enabled the remains of the tumour to be completely removed. The cavity was then swabbed with iodine solution (3j to Oj) and the uterus replaced. Iodoform gauze was packed in the uterus for a few hours. The tumour weighed 1 lb. 3½ oz. It was dull red in colour, and in parts was covered with a yellowish-green slough. The operation lasted thirty-five minutes.

The temperature, which had varied from 104° to 100° before the operation, reached 100.8°, 100.8°, 101.6°, 103° in the first four days, then gradually fell to normal. The patient left the hospital on August 18th, 1910, and wrote seven months later to say that she was quite well.

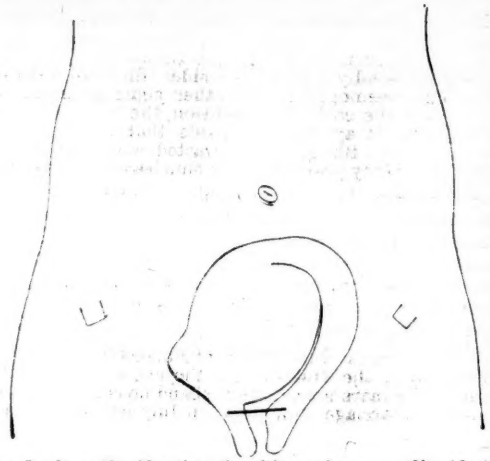

FIG. 3.—Case 32. Showing sloughing submucous fibroid eleven days after labour.

**It is probable, however, that haemorrhages due to submucous fibroids or to the insertion of the placenta upon them are sometimes erroneously attributed to placenta praevia. The following case is an example of this occurrence:**

CASE 31.—*Submucous Tumours: Removed after Childbirth by Enucleation through the Os Uteri.*

In the outdoor maternity of University College Hospital in 1897 a submucous fibroid measuring 5 cm. by 2.5 cm., to which a piece of placenta and membranes were attached, was removed immediately after labour from a patient aged 41. It was situated on the posterior wall of the body and was associated with haemorrhages during the pregnancy. The labour was natural till the third stage; the placenta was retained; it was during the manual extraction of the placenta that the tumour was discovered. The patient recovered well. Microscopic examination of the tumour showed hypertrophied muscle, adherent chorionic villi, and dilated glands.

It is to be noted that in such a case as this the haemorrhage may lead to the discovery of the tumour.

While abortion, except in the case of submucous tumours, does not appear to occur with much greater frequency than in normal uteri, both premature and post-mature labour are apt to occur.

Pain or tenderness over the tumour or uterus are frequent symptoms, especially in necrobiotic tumours. The pain is usually easily relieved by rest, light diet, and anodynes. I have never met with the "unbearable pain" which some authorities have given as a justification for performing hysterectomy in early pregnancy. In cases of torsion or inflammation or infection of the tumour the symptoms are acute and require prompt surgical interference. Pressure by the tumour on the veins may cause oedema of the lower limbs; albuminuria is not uncommon, and ascites may occur. Abnormal presentations, breech especially, are frequently met with. The labour is often surprisingly easy in view of the advanced age of many of the patients. Even in the case of tumours encroaching on the brim it is found that the tumour is often drawn up out of the way during labour. In some cases forceps may be required for inertia. Retention or incarceration of the placenta or decidua may occur (as in Case 31 reported above), and post-partum haemorrhage, if submucous tumours are present, may be severe. The following is an example of retention of decidua after a miscarriage:

CASE 35.—*Miscarriage: Sepsis: Enucleation of Submucous Myoma and Removal of Decidua: Recovery: Twenty Years Later Death from Sarcoma.*

On October 24th, 1898, at 11 p.m., I saw with Dr. Webb of Netley a lady, aged 34, suffering from fever (temperature 100°, pulse 120) and foul discharge after a miscarriage which had occurred six days previously at the second month. A consultation had been held and the finger had been passed into the uterus, the lining of which was smooth, but the origin of the foul discharge was not discovered. Under chloroform I introduced my finger and found the smooth condition of the lower uterine canal, but I also felt bulging into the cavity a sessile submucous myoma as

big as a walnut; above this, which acted as a ball valve, some putrid decidua could be touched. I enucleated the myoma, removed a mass of putrid decidua, and washed out the uterus with 1 in 3,000 mercury perchloride solution. The temperature fell to normal, and the patient recovered perfectly.

I attended her subsequently in her confinement on December 23rd, 1901, which was quite normal; she also had a second child without any difficulty. She remained in good health till 1917, when she began to lose considerably, and the abdomen increased in size. She became cachectic. I saw her in consultation with Dr. Blaikie and Sir Thomas Barlow on October 5th, 1917. She had a large fixed irregular uterine tumour nearly filling the abdomen, especially on the left side. She had also pleural effusion and haemoptysis, and other signs of growth in the lungs. From the cachectic condition, the haemorrhages, and foul discharge it appeared probable that the growth was a uterine sarcoma. She gradually wasted, and died in February, 1918, nearly twenty years after the enucleation of the fibroid.

The following is a remarkable instance of the value of conservative treatment in a case of pregnancy complicated with large tumours:

CASE 7.—*Multiple Fibroids causing Obstruction (sixth week) and Albuminuria (eighth month): Induction of Labour: Mother and Child Living Twenty Years Later.*

On September 26th, 1894, M., a nullipara aged 37, was sent to me by Dr. Lennox Wainwright, of Folkestone. She had been married twice, the first time at the age of 20, but although married many years to her first husband no coitus had occurred. Her second marriage took place on July 1st, 1894. A few days

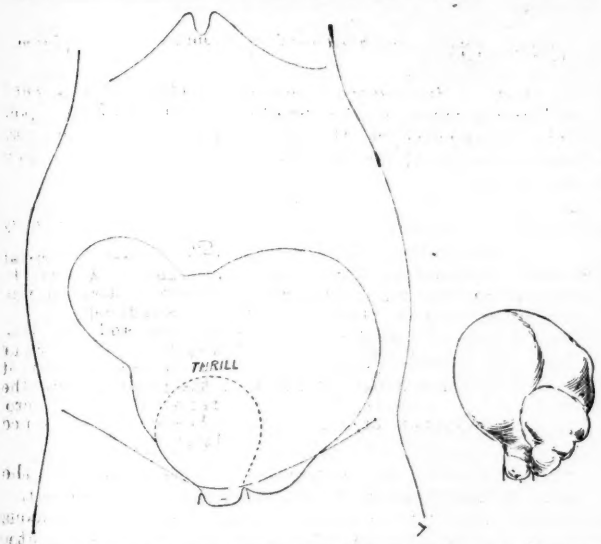


FIG 4.—Case 7. The larger figure shows the size of the tumour at the sixth week of pregnancy; the smaller figure shows the size of the uterus twenty years later.

afterwards she had a period, but had seen nothing since. In the last three days she had been sick, and for three weeks she had had frequency of micturition. At the age of 14 she had an attack of peritonitis, which was repeated in 1886 and 1892, and since then had had several threatenings, and a well marked attack three weeks ago.

Menstruation began at the age of 11, and was regular except at the age of 19, when it stopped for thirteen months; it was always very painful.

On examination the abdomen was tender and distended by a tumour, which reached up to the umbilicus on the left side and rather higher on the right, where there was a marked movable projection as big as a fist.

The tumour felt like a myoma, and near the middle of it there was a marked thrill.

The uterus was retroverted, apparently enlarged, and seemed to pass into a hard mass above and around the cervix. To the left of the cervix projected a solid mass connected with the uterus. This mass came down to the level of the edge of the cervix. The diagnosis was made of pregnancy of two to two and a half months complicated with multiple fibroids.

With rest the patient progressed fairly well, but a month later, on October 28th, 1894, I was called to Folkestone to see her, and found her extremely ill, vomiting frequently, and obstinately constipated. A large enema of soap and water was administered, with the result that motions were passed and the patient recovered completely. At this time the fundus had risen out of the pelvis, but the fibroid on the left side still occupied the brim. At the beginning of April, 1895, the patient came up to London to a nursing home with a view to having Caesarean section performed. The urine was found to contain a large quantity of albumin. The head was above the brim, and the lower end of the large fibroid just entered the pelvic brim on the left side, otherwise the pelvis was free and of full dimensions. I had the advantage of a consultation with Sir John Williams, and it was decided to induce labour on account of the albuminuria. This was done with bougies. During the labour the fibroid on the left side retracted above the brim and a well developed girl of about eight and a half months' development was born alive, after a normal labour, on April 7th, 1895. This girl grew up a very well developed woman, and married in 1914.

On May 7th, 1914, I saw the mother, aged 57, in good health. Menstruation stopped at the age of 47. The uterus was of the size of a fist.

On the whole, in cases suitable for delivery *per vias naturales*, the labour is often normal, even when the tumours in the upper part of the uterus are quite large. In cases, however, in which injudicious attempts are made to deliver the child by forceps or version past tumours even of small size, dangerous bruising of the tumours or even rupture of the uterus may occur.

### *Diagnosis.*

The diagnosis of pregnancy and of fibroids sometimes presents difficulties which are increased when the two are combined. It is more likely that a mistake will be made with regard to the pregnancy than the fibroid. In the first half of pregnancy the great factors in the diagnosis are the suppression of the menses, even if only for a few days, and a uterus larger than it should be and irregular in shape, the irregularities being hard. A uterus may be irregular from pregnancy in one corner—a lop-sided uterus—but it has the normal consistence; when it contracts and becomes hard it assumes the normal shape. If the pregnancy is advanced to the second or third month, the softness of the cervix and body are characteristic, the latter being sometimes best felt on rectal examination. In the early months the points to bear in mind are the cessation of menstruation, the rapid growth of the tumour, the consistence of the uterus, and the hard irregularities upon it.

In the second half of pregnancy, when the "certain" signs—heart sounds, parts or movements of the child, and ballottement—are available, difficulties in diagnosis are sometimes met with. In very rare cases, of which I have seen only two or three instances, the uterus remains as hard as a fibroid throughout pregnancy, and is not subject to those periodical relaxations and contractions which ordinarily characterize it. On the other hand, a degenerated fibroid uterus, by its consistence and livid appearance, may closely simulate a pregnant uterus with its contained fetus, but the certain signs and the breast changes are, of course, absent; menstruation is usually excessive, and I believe the bulging of the anterior lower segment which is sometimes seen in the case of fibroids is never met with in normal pregnancy, though it may be found extremely marked in retroflexion of the pregnant uterus produced by fibroid of the fundus adherent in the pelvis. When there are irregularities on the surface of the pregnant uterus the diagnosis is simplified; the prominences are hard, the pregnant uterus soft and contractile; the fibroids do not alter their position as parts of the fetus do, and they may become more marked during uterine contractions, which obliterate the fetal parts; at most the tumours have a slight mobility, but return to the same position even when repeatedly examined. A large subperitoneal or intramural growth or small multiple growths may render the palpation of the fetus difficult till the pregnancy is somewhat advanced.

If the fibroids are degenerated they may feel softer than the rest of the uterus when the latter contracts, as in the following case:

CASE 30.—*Miscarriage: Intramural Fibroids: Recovery: Caesarean Section in subsequent Pregnancy: Acute Sepsis (Infection of Tumour): Death.*

A. S., aged 42, married in 1904; no children, one abortion (December, 1914); had been an in-patient on December 17th, 1914, at University College Hospital for incomplete miscarriage of about nine weeks, brought on by the use of abortifacients. The retained decidua was putrid, and on removing it an intramural myoma as large as an orange was found in the anterior wall of the uterus. An iodine douche was given, and gauze applied for twelve hours as bleeding was profuse. She recovered well, though the temperature was raised to 100° on three occasions up to the ninth day and up to 99.6° on the thirty-second day; the pulse also varied from 80 to 96.

She was advised to submit to Caesarean section if she became pregnant again. Accordingly she was admitted to University College Hospital on February 21st, 1917; she was in good condition and near the term of pregnancy. The child was lying obliquely with the head below, displaced to the left by the fibroid,

which was felt in the lower segment, more on the right side than the left, as a softish tumour as big as a large orange, which came down into the pelvic brim. Two other small fibroids were felt in the body. The pelvic measurements were normal—10½, 11½, 8 in. The temperature was very slightly raised (99.4° on admission), but afterwards, till the operation, only twice reached 99°; the pulse varied between 88 and 104 (on admission 120). Caesarean section was performed on March 1st, 1917, at 1.30 p.m. The patient had had slight pains all night and strong pains after midday. The abdomen showed a marked prominence above the pubes, which looked like the distended bladder, but felt thicker-walled. It was prominent, but felt soft and fleshy when the uterus contracted; in the intervals between the contractions it felt of the same consistence as the rest of the uterus. The operation was a simple one; the uterus was sewn up with silk; the incision did not extend to the fibroid, which was not encroached upon. The child was delivered alive by the feet in forty seconds, and survived. The operation lasted fifty-two minutes. A submucous myoma as big as a walnut, to which the placenta had been attached and which had been felt on abdominal palpation, was excised. The patient suffered severely from shock, although she had no pain and said she felt well; the pulse and temperature rose to 100; and thirteen and a half hours after the operation she had a rigor and the pulse became very rapid. On the second day temperature 101°, pulse 120 to 166. On March 4th, sixty hours after the operation, at 1.30 a.m., she died. She vomited repeatedly, but this ceased on washing out the stomach. A good deal of flatus was passed per rectum on the second day, and the patient felt comfortable. There was no tenderness of the abdomen. Although she said she felt well but extremely weak, it was obvious she was sinking from acute sepsis.

*Post-mortem Examination.*—The abdomen was distended, the abdominal wound healthy. A little free fluid was present in the peritoneum, and a few flakes of lymph. The bowel was distended with gas, and had a film of pus over it in places. The deep surface of the wound in the abdominal wall showed early infection. The uterus was large and flabby, the incision was sloughy. The fibroid in the uterine wall felt soft and fluctuating. The uterus was hardened in formalin-salt solution. On opening it the fibroid was found to be of a deep red colour, with cavities containing bloody fluid and bubbles of gas in the uterine wall, as in gas gangrene. The weather was cold, and gas was found in many other tissues of the body. The *Bacillus welchii* was found by Dr. Teale in the tumour.

A degenerated and cystic fibroid may closely resemble an ovarian tumour, and sometimes cannot be distinguished from it, as in a case I recorded in the Obstetrical Society's *Transactions*, vol. xlvi.

CASE 15.—*Large Degenerated Fibroid.*

On July 5th, 1901, I removed from a patient, aged 41, from the left broad ligament during labour, a tumour of which the solid part weighed over 17 lb. and was a foot in diameter. The child, dead before the operation, was easily delivered eight hours later. The patient had previously had four children, at the last labour twins, six years ago. The labours were all normal and the patient had never aborted. She had been very healthy all her life and had first noticed considerable enlargement of the abdomen two years earlier, but always noticed that the abdomen did not go flat after the labour.

In the following case a reniform tumour at the fourth month was diagnosed as a dermoid. Torsion had occurred.

CASE 16.—*Reniform Fibroid: Twisting of Pedicle: Septic Thrombosis: Death.*

Mrs. S., aged 27, a nullipara, was suddenly seized with pain and inflammation on the left side of the abdomen when four months pregnant. A tumour was found on the left side of the body of the uterus, very tender on examination, and was diagnosed as a twisted dermoid. The patient was removed without delay to a nursing home and the tumour removed by abdominal section on May 20th, 1906. There were no adhesions but there was a little pus around the tumour, which was greatly congested owing to twisting of its pedicle, which was attached just inside the insertion of the left round ligament. Some difficulty occurred from haemorrhage owing to the vascularity of the pedicle; but the haemorrhage was stopped by understitching with fine silk. The patient progressed fairly well for two days, then had suppression of urine, secreting only 1½ oz. in sixteen hours, the urine containing one-third albumin and bile, and she died on the third day.

A *post-mortem* examination was not obtained and the tumour was not examined for micro-organisms, but the presence of pus shows that it was probably infected, and I think that death was probably due to septic thrombosis of the ovarian and renal veins. The tumour was a reniform subperitoneal pedunculated myoma weighing 9 oz. and measuring 11½ by 7 by 6 cm. The raw surface of attachment was at the "hilum." The section showed numerous haemorrhages into the tumour and green patches near the surface. There was a small tag of lymph on the surface.

A difficulty may occur in diagnosing twisted fibroids in the acute stage, though the hardness will be in favour of uterine fibroid and the age of the patient may assist the diagnosis. In all cases of difficulty, especially with impacted or inflamed tumours, examination under anaesthesia is of the greatest value.

I need only allude to the resemblance of a horn of a double uterus to a fibroid, for which it has been mistaken, leading to the sacrifice of the uterus, when excision or even replacement of the horn would have sufficed.

*After the birth* of the child the diagnosis of subperitoneal and intramural tumours is usually easy, owing to the lax state of the abdominal wall and the smaller size of the uterus. Submucous tumours may be overlooked, unless they give rise to haemorrhage or to fever from necrosis or gangrene. If the uterus is large and hard in the puerperium, a submucous fibroid should be suspected and the uterus should be explored. Fever may arise either from retention of the products of conception or from infection of the tumour, especially if it has undergone degeneration. A tender subperitoneal tumour in the puerperium, associated with fever, will suggest infection. I have known a large intramural tumour mistaken for a second twin; in that case the hardness of the tumour and the absence of signs of the fetus rendered the diagnosis easy, but were the tumours degenerated, considerable difficulty might arise; it would be overcome by exploration through the cervix.

A fibroid impacted in the pelvis, especially if cystic, may closely resemble an ovarian cyst, and a subperitoneal fibroid after abortion may resemble a tubal mole, but is to be distinguished by its hardness. Inversion of the uterus may occur, usually some weeks or months after labour or abortion. In addition to the usual signs of inversion, there will be a tumour usually separated by a groove and distinguishable from the uterus by its harder consistence. A case of mine in which these two points of distinction were absent is, so far as I know, unique.

*Prognosis.*

The prognosis is in the great majority of cases good when the patients are attended with judgement, and careful regard is paid to asepsis. The three fatal cases here published, which are all that I have met with, are examples of dangers which sometimes arise. The first

TABLE A.—*Author's Cases treated by Abdominal Myomectomy.*

| No. | Age. | Children. | Abortion. | Date of Operation. | Adhesions. | Tumour. | Remarks. |
|---|---|---|---|---|---|---|---|
| 1 | 41 | 4 | 0 | July 5, 1901 | To omentum and broad ligament | Cystic myoma 1 foot in diameter, solid part over 17 lb., and several pints of fluid. | Operation during labour. Mother recovered; child dead before operation. (Case 15.) |
| 2 | 30 | 0 | 0 | March 5, 1906 | To omentum | Pedunculated twisted reniform tumour attached by hilum just internal to right round ligament, 11.5×9×5 cm.; vascular, degenerated, adhesions on surface. | Operation three weeks after abortion at fifth or sixth week. Mother recovered. (Case 17.) |
| 3 | 27 | 0 | 0 | March 20, 1906 | No | Pedunculated twisted reniform tumour attached by hilum just internal to left round ligament. (See text.) | Operation at fourth month of pregnancy. Patient died on third day. (See text, Case 16.) |
| 4 | 26 | 0 | 0 | November 11, 1911 | To omentum | 1 lb. 1 oz., 7.5 cm. in diameter, pedicle 3.7 cm. thick, lymph on surface; necrobiotic; sterile. | Operation at eleventh week of pregnancy. Child, 7 lb. 15½ oz., born 272 days after marriage; vertex presentation. Patient recovered. (Case 14.) |
| 5 | 29 | 2 | 0 | July 24, 1913 | To omentum and abdominal wall at navel | 3¾ oz., 7.5 × 5 × 4.5 cm., calcified and degenerated. | Operation at sixth week of pregnancy. Child, 6 lb. 10 oz., delivered naturally; vertex presentation, March 10, 1914. Patient recovered. (Case 13.) |

TABLE B.—*Author's Cases of Pregnancy complicated by Fibroids treated by Conservative Caesarean Section.*

| No. | Age. | Children. | Abortion. | Date. | Adhesions. | Fibroid Removed. | Remarks. |
|---|---|---|---|---|---|---|---|
| 1 | 34 | 0 (married 5 years) | 0 | March 1, 1907 | No | No | Fibroid size of lemon in left lower segment; generally contracted pelvis; healed tubercle of sacro-iliac joints and pelvis. |
| 2 | 31 | 2 | 0 | Jan. 8, 1916 | No | No | Fibroid size of grape right upper anterior wall; contracted pelvis. Several small fibroids found on December 14, 1918, when Caesarean section successfully done for the fourth time (H. R. S.). |
| 3 | 42 | 0 | 1 | March 1, 1917 | No | No (a small submucous tumour removed) | Degenerated infected myoma of lower segment. *Bacillus welchii* in tumour. The patient died of acute sepsis in sixty hours. (Case 30.) |
| 4 | 25 | 0 | 0 | March 17, 1917 | No | No | Pelvis contracted 3½-inch conj. vera); two fibroids size of grape and marble at back of uterus. |
| 5 | 38 | 1 (dead; forceps) | 1 | Feb. 8, 1918 | No | No | Pelvis contracted (3½-inch conj. vera); one child delivered dead with forceps (difficult); small fibroid in anterior wall. |

All the mothers recovered except No. 3; all the children were living.

TABLE C.—*Author's Cases of Pregnancy complicated by Fibroids treated by Caesarean Section followed by Abdominal Hysterectomy.*

| No. | Age. | Children. | Abortion. | Date. | Adhesions. | Nature of Operation. | Remarks. |
|---|---|---|---|---|---|---|---|
| 1 | 28 | 0 | 1 | May 14, 1892 | No | Porro's operation (299 days after last menstruation) | (See *Obstet. Soc. Trans.*, vol. xxxviii, p. 390.) Breech presentation. Labour obstructed by cervical fibroids. Mother quite well in 1914; the daughter 5 ft. 10 in. in height, well developed, recently married. Uterus weighed 6 lb. |
| 2 | 28 | 0 (married 5 years) | 0 | March 18, 1905 | A few around ruptured tube | Caesarean section + total abdominal hysterectomy | (See *Obstet. Soc. Trans.*, vol. xlviii, p. 240.) Patient in labour. Footling presentation; membranes ruptured 8 hours; urine highly albuminous; ascites. Uterus 6 lb. 2 oz. |
| 3 | 38 | 0 | 0 | March 29, 1908 | Of pedunculated fibroid to Douglas's pouch | Caesarean section + total abdominal hysterectomy | (See *Proc. Roy. Soc. Med.*, Obs. and Gyn. Section, vol. ii, p. 74.) Breech presentation. Operation for retroflexion of uterus by fundal fibroid adherent in Douglas's pouch; uterus 5 lb. 12½ oz. (with placenta). Operated on for spindle cell sarcoma of left ovary, May 20, 1919. Child dead before operation. |
| 4 | 37 | 3 | 1 (induced at 6½ months) | July 10, 1919 | No | Caesarean section + total abdominal hysterectomy | (See *Proc. Roy. Soc. Med.*, Obs. and Gyn. Section, vol. iii, p. 82.) Head presentation. Operation for painful fibroids and contracted pelvis. Difficult labour last 10 years before; 1 child imbecile, injured by forceps. Uterus 2 lb. 14 oz., posterior wall 2 inches thick; hyaline degeneration of uterine muscle and fibroids. |
| 5 | 40 | 0 (married 9 years) | 0 | October 12, 1914 | No | Caesarean section + total abdominal hysterectomy | Operation for painful fibroids and contracted pelvis. Fibroids in posterior lower segment in pelvis, but had risen at operation. Patient anxious for living child. In labour 3 hours; head presentation. (Case 29.) |
| 6 | 42 | 0 (married 3 years) | 0 | Sept. 30, 1916 | No | Caesarean section + total abdominal hysterectomy | Operation for fibroids and contracted pelvis; head presentation. Conjugata vera 3½ inches. Fibroid 3½ inches in diameter, 2½ inches thick in lower segment to level of internal os. Mother and child well in 1919. (Case 28.) |

All the patients recovered; children all living except No. 3, which was dead before the operation.

death, from intestinal obstruction due to nipping of ileum between the subperitoneal fibroids, is a very rare accident, of which I have not been able to find another example. The other two deaths (Cases 16 and 30) suggest the necessity of bacteriological examination of the tumour before resorting to conservative abdominal operations.

### *Treatment.*

The great majority of cases require only careful supervision during pregnancy, periodical examination of the urine, and rest, mild aperients and anodynes if the tumours become painful. Induction of abortion, and premature labour and forcible delivery past obstructing tumours are contraindicated. Forceps may be required for inertia but should never be used to overcome resistance caused by tumours. Craniotomy and embryotomy are called for only in cases in which the fetus is dead and the mother not infected. Polypi and pedunculated subperitoneal tumours should be removed.

*Vaginal myomectomy* may be required for cervical fibroids, but should not be performed for retro-cervical tumours.

*Abdominal myomectomy* is rarely needed, and usually only for very large or twisted or necrobiotic tumours. It not infrequently leads to abortion and to hysterectomy in order to stop the haemorrhage from the bed of the tumour, and it often fails to remove all the tumours present in the uterus. Before performing myomectomy, as also before conservative Caesarean section, the tumour should be examined bacteriologically, and if it is infected the whole uterus should be removed.

*Hysterectomy during early pregnancy* in the absence of haemorrhage or infection is rarely called for.

*Myomectomy and hysterectomy* in early pregnancy are frequently performed by some gynaecologists. An important monograph by T. Landau[1] on myoma and pregnancy is illustrated by many fine plates of fibroid uteri containing little fetuses, sacrificed in some cases, it appears to me, unnecessarily by the operation of hysterectomy. He gives a list of eleven cases of abdominal myomectomy during pregnancy, apparently operated upon by his brother and himself. All the patients recovered and only one aborted. A careful reading of the history of the cases leaves a doubt as to whether the operation was in all necessary or advisable. He gives also a list of 19 cases in which hysterectomy was performed in the early months of pregnancy. In some of the cases the pregnancy was not diagnosed before the operation; in others what was intended to be myomectomy terminated in hysterectomy. One of the mothers died, the others were, of course, sterilized and the children sacrificed. The practice of hysterectomy in the early months of pregnancy is, in my opinion, much too common, both abroad and in this country. I have never found it necessary.

In Table A are given my cases of abdominal myomectomy during pregnancy. Of the mothers four recovered and one died (undelivered) at the fourth month of pregnancy. In No. 1 the child was dead at the time of the operation. In No. 2 abortion had occurred before the operation. In Nos. 4 and 5, operated on at the eleventh week and sixth week, the pregnancy continued and living children were born.

Every endeavour should be made to enable pregnancy to be carried on until the child is viable, when a conservative or radical Caesarean section may be performed.

*Conservative Caesarean section* is rarely indicated by the fibroids alone, but may be performed when fibroids are associated with contracted pelvis or malpresentations of the child, especially in elderly primiparae. In the case of a single myoma it might be possible to remove the myoma and child through the same incision. Landau, who removed

the uterus nineteen times during early pregnancy, does not record a case of conservative Caesarean section.

My five cases are given in Table B. In all of them contractions of the pelvis and the presence of fibroids were the indications for the operation. The five children survived; one mother died owing to my failure to discover the infection of the tumour. The case should have been treated by total abdominal hysterectomy.

*Caesarean Section followed by Abdominal Hysterectomy.*

Landau performed the operation in two cases only; the mothers and one child recovered; of the other child it was stated that it was a well-developed boy, but whether it survived or not is not mentioned.

My six cases are given in Table C. All the mothers recovered, and all the children survived except one, which was dead before the operation was performed.

Total hysterectomy, which was performed in five of the cases, is, in my opinion, preferable to amputation in pregnant as in non-pregnant cases, especially as it provides drainage and removes the possibly infected cervix.

Troell gives a list of twenty cases (including two of mine) operated on since 1900, with two deaths. I am able to add three more cases (Table C, Nos. 4, 5, 6), making twenty-three cases with two deaths.

*In the puerperium* vaginal myomectomy is usually the best treatment for submucous tumours even when they are infected or invert the uterus. It should usually be tried before resorting to hysterectomy, which I have never found to be necessary. In infected subperitoneal or intramural tumours total abdominal hysterectomy should be performed.

REFERENCE.

[1] T. Landau: *Myom bei Schwangerschaft, Geburt und Wochenbett.* 1910.

## PENETRATING WOUND OF CHEST: THORACOTOMY: SUTURE OF PERICARDIUM.

BY

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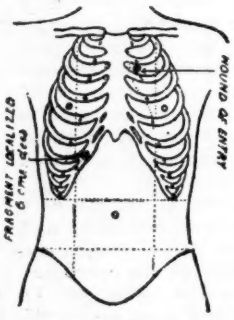
THE following case seems of interest as throwing light on the question whether it is necessary to close a large traumatic communication between the pericardial and pleural cavities. Wounds of the pericardium are rare, and almost impossible to diagnose with certainty.

During the late war much advance was made in thoracic surgery, but the indications for operative interference are not so definite as in corresponding cases of abdominal injury, the reason being that many cases of wounds of the thoracic viscera recover without operation—a very rare event in a wound of a hollow viscus in the abdominal cavity.

In the following case the only factor which might have suggested a diagnosis of injury to the pericardium was the direction of the track of the shell fragment between the entrance wound and the position of the fragment as shown by *x* ray (see diagram).




Pte. H. T., aged 19, was wounded by a piece of high explosive shell at 3.30 a.m. on June 25th, 1918. He was admitted to No. 1 Canadian Casualty Clearing Station under my care at 9 a.m. He was cold and collapsed, with marked dyspnoea, and complained of severe pain in the right side of the chest. There was a small ragged wound over the second left intercostal space, about half an inch from the margin of the sternum. The right side of the chest was absolutely dull on percussion. The pulse was 120. He was put to bed in the resuscitation ward, given morphine gr. ¼, atropine gr. $\frac{1}{150}$, and warmed up by an electric cradle.

At 1 p.m. he was warm, but his condition was otherwise unchanged; the pulse was 124. Examination of the chest with the screen revealed a shell fragment about the size of a raisin (see diagram), 6 cm. deep from the anterior wall of the chest. It did not move on respiration. There was dense right haemothorax, and the right side of the diaphragm hardly moved. The left chest was clear.

*Operation.*

A 7-inch incision was made (at 2.30 p.m.) over the fifth right rib and costal cartilage, commencing about one inch from the middle line in front. It was carried down to the bone, and the periosteum elevated from the rib. The rib and costal cartilage were split for the length of the incision by a Hey's saw and the parietal pleura divided by scissors. A rib separator was introduced and the chest widely opened. A large haemothorax was evacuated and some large blood clots wiped out with gauze. The right lung was collapsed, and a tear, which was bleeding, was found at the lower part at the junction of the anterior and basal borders. This was sutured with fine linen thread.

On inspecting the lateral wall of the mediastinum a tear in the pericardium, about two inches in length from above downwards, was seen, through which was protruding the right auricular appendix and part of the right auricle. This was closed by a continuous suture of fine linen thread, but with considerable difficulty, owing to the extremely rapid beating of the heart and the attempts of the auricular appendix to get outside the pericardium at each beat.

A rapid search was made for the fragment of shell, but, owing to the patient's condition, was not prolonged, and it was not found. The pleura and two halves of the rib were brought into apposition by five or six sutures of thick chromicized catgut passed round the whole rib and securely tied. The muscles were united and the skin incision closed.

The entrance wound, which was dirty and ragged, was incised and packed with gauze. Gas and oxygen had been administered most skilfully for fifty minutes by Major R. Henry. After the first twenty-four hours, during which the patient was rather "shocked," progress was satisfactory. The stitches were removed on the tenth day, and the wound had healed per primam.

*After-History.*

On July 8th, twelve days after operation, he was not so well, and for two days he had had an evening rise of temperature, 101°. I asked Captain John Tull, C.A.M.C., medical specialist of the unit, to see him, and he reported as follows:

*Heart.*—Palpable friction over body of heart; dullness extends from right sternal border to ½ in. outside left mid-clavicular line. Cardio-hepatic angle not widened. Both sounds clear. To and fro harsh friction audible all over precordium.

*Lungs.—Right:* Dullness and general flatness from middle of scapula to base; signs of fluid; aegophony. *Left:* Dullness for hand-breadth at base; signs of fluid.

We aspirated 20 oz. of clear straw-coloured fluid from the right pleural cavity. Culture sterile.

On July 13th Captain Tull reported:

*Heart.*—Dullness has increased during past few days, and now extends from ½ in. to right of sternum to 1 in. outside left mid-clavicular line. Sounds are well heard. Precordial friction is much less distinct. It is probable there is moderate effusion into pericardial sac. *Lungs.—Right:* Fluid has reaccumulated in right pleural sac; now extends from mid-scapula to base. *Left:* Signs of fluid from lower border of scapula to base.

On July 14th straw-coloured fluid 15 oz. was aspirated from the right pleural cavity. This caused much distress. Culture: a few Gram-positive cocci.

On July 18th clear fluid 16 oz. was aspirated from the left pleural cavity. No culture was obtained.

On July 22nd he was very greatly improved, and in our opinion fit to travel. At the time there was great pressure on the available beds, and he was evacuated to the base.

*Present Condition.*

In February, 1919, he was demobilized, marked category B3, and I have a letter from him written in August, 1919, to say that he is working as a platelayer on the railway, and his only complaint is some shortness of breath on exertion. The shell fragment is still *in situ*.

Dr. T. S. Lister of Sandal, Wakefield, has very kindly sent me the following notes:

"I saw him yesterday; he is looking well and strong, and is working on the railway. Long scar of incision extending across the right side of the chest over the fifth rib. This is healed and healthy. Scar 3 in. long over front of second intercostal space on left side.

"Cardiac apical dullness extends to half an inch internal to left nipple line. No appreciable dullness on right side of sternum. The first heart sound at the apex is weak. Liver dullness in right nipple line extends to sixth rib. Dullness on posterior surface normal. Breath sounds are normal both sides. Vocal resonance no appreciable difference on the two sides. Expansion of chest is good and normal. He has slight shortness of breath on exertion."

Gask and Wilkinson have laid down indications for early operation in cases of penetrating wounds of the chest, but this case did not present any of those indications, and the first point that will suggest is, Would recovery have occurred without operation? As far as the injury to the lung and the haemothorax are concerned, aspiration would in all probability have been sufficient. As to the rent in the pericardium, I venture to think that closure was essential for the following reasons:

1. Prevention of spread of infection or fluid into the pericardial sac. Immediate closure of other serous cavities has been found to be the best method of treatment in cases of early infection.

2. Mechanical. The contraction and adhesion of the rent in the pericardium to the auricle might have caused grave cardiac symptoms.

The escape of the great vessels and the auricle itself is worthy of note.

I am much indebted to Captain John Tull, C.A.M.C., for his clinical aid and to Dr. T. S. Lister for the notes he supplied me with.

## ACUTE INTESTINAL OBSTRUCTION DUE TO PREGNANCY IN A BICORNUATE UTERUS.

BY

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THE following case is worthy of record because it is an example of a rare condition which presented great difficulty in diagnosis, and because an interesting question is raised as to what should be done in any future pregnancy.

Mrs. W. was admitted to the West Norfolk and King's Lynn Hospital on October 29th, 1919. The history was as follows: She had menstruated on August 5th, 1919, and had morning sickness in September; in October she noticed that her abdomen was swelling, and her breasts became somewhat tender.

Forty-eight hours before admission she was seized with sudden abdominal pain and vomiting. Her doctor tried turpentine enemata without avail. The vomiting continued, and the abdomen became distended and tympanitic. On admission to hospital the pulse was 104, and of low tension, and the temperature was 98°. Her features were drawn and her expression anxious; the extremities were cold. She vomited twice during her first half-hour in hospital; the vomit was bile-stained, with no suggestion of a faecal taint. The abdomen was somewhat distended, particularly in the left iliac fossa and left flank, and acutely tender all over. In the suprapubic region was a pyriform swelling, obviously the uterus, and I was at once struck by the fact that, although she was less than three months pregnant, the uterine fundus reached a level a fingerbreadth above the umbilicus. On vaginal examination the cervix was found to be softened, and there was marked fullness in both lateral fornices, while from the rectum could be felt a tense elastic swelling, filling up the whole pelvis and pressing firmly upon the rectum. A diagnosis of pregnancy complicated by impaction of an ovarian cyst was made.

*Operation.*

The abdomen was opened by a left paramedian incision 6 in. long, extending 1 in. above and 5 in. below the umbilicus. The intestines (particularly the large bowel) were very distended, and were with some difficulty packed off from the field of operation. On passing the hand behind the uterus a tense cystic swelling was felt. This swelling quite filled the pelvis, so that it was not easy to insinuate the fingers between it and the pelvis wall. After some manipulation, however, this was done, and the swelling was partly delivered from the pelvis, when the following was found to be the condition of affairs. There was a bicornuate uterus; the first horn was normally placed, while the second horn lay behind and to the left of the first. It was attached to the left side of the cervix; it lay behind the left broad ligament, and there was no direct communication between its cavity and the lumen of the Fallopian tube. It was impossible to expose either the anterior or posterior walls of the second horn, so a transverse incision was made across the fundus of it, and a fetus of two and a half months' gestation was removed, together with placenta and membranes. The horn was sewn up with silk as in Caesarean section. The condition of the patient was not good, and the abdomen was closed forthwith.

*After-History.*

The intestinal obstruction was completely relieved by the operation, the bowels being well opened by a turpentine enema next morning. Convalescence was normal. I saw the patient again on December 20th, 1919. The median uterine horn was now normal in size, while the abnormal horn could be felt quite distinctly from the rectum as a hard swelling of the size of a large walnut lying behind and to the left of the cervix and slightly above it.

It will be noted that subsequent events showed that only one horn of the uterus contained a fetus. In spite of this, the empty horn was very much larger than the full one. There were no lochia.

As regards further treatment, should the abnormal horn be removed? My own view is that it should. If the patient again becomes pregnant, the best that can happen is that she be delivered at term by Caesarean section; the worst is that intestinal obstruction will develop again.

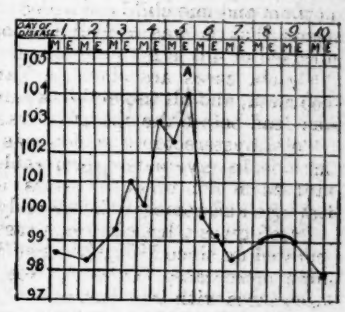
From what was found at the operation, I feel sure that it would be a safe and simple procedure to remove the abnormal horn. The patient, however, was not willing to have a second operation, unless I considered that her condition was immediately dangerous, and this obviously was not the case.

# Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

### ANTISTREPTOCOCCIC SERUM IN PUERPERAL FEVER.

NATURALLY every case of puerperal fever does not respond to antistreptococcic serum, but it is well to remember its remarkable results in some cases. I have used it twice, and on both occasions with the most dramatic results. The chart reproduced speaks for itself. It is from a patient I treated recently, and it is noteworthy that only 10 c.cm. of the serum were used, more not being available at the moment. The directions sent with the serum recommend 30 c.cm. as the minimal dose.




A=10 c.cm. antistreptococcus serum.

The other case was even more gratifying, as the woman had had a temperature ranging between 104° and 105° F. for several days, with repeated rigors, yet responded immediately to the serum.

Northwood. O. HILTON.

### A SIMPLE TREATMENT OF RINGWORM OF THE NAILS.

IN general practice onychomycosis is comparatively rare and its treatment is apt to be superlatively disappointing. Two years ago I met with two cases which appeared to be very much alike. Both were women of middle age and in comfortable circumstances. In one a thumb and in the other a finger nail was badly affected.

Examination of scrapings showed hyphal fragments, and a few particles placed on wort agar gave cultures of rather slow growth resembling specks of damp flour. No conidial fructifications were observed, and the organisms consisted of infrequently branched mycelium with many oidium-like elements and some simple chlamydospores. The cultures died in a few weeks.

It may be objected that such a miserable depauperate mould falls short of what a ringworm should be, but these elements are just the constants of every ringworm culture, and all other elements are variants, more or less perfect, more or less obsolete.

*Treatment.*—The disease had existed for months in one, for years in the other. They were given a lotion of ʒ j of salicylic acid in ʒ jss of methylated spirit, to be painted on after scraping every night, and without scraping every morning, and to be used for three months or longer. Both have been cured for twelve months.

London, W. ROBERT CRAIK.

### MODE OF INFECTION IN PULMONARY INFECTION.

HAVING felt for a considerable time that the present view of the mode by which tuberculous infection is carried from the tonsil to the lung—namely, through the cervical glands to the mediastinal and bronchial glands and so to the lung—is not satisfying, I offer the following suggestion:

Might it not be that the infection is carried from the tonsil through the cervical glands to the jugular trunk and then passed directly into the blood stream through the jugular vein and so to the right side of the heart, from which it would pass to all parts of the lungs? This would aid in explaining why it is that the tuberculous process in the apex is manifested in the lung substance, while in other parts it gives rise in the first instance to pleurisy. The movement at the apex is so much less than that of the other parts of the lung that a greater slowing down of the capillary circulation is more likely in this part. It is in the capillary circulation of the pleura that this slowing down would occur in other parts.

I am excluding trauma, which is no doubt an important factor in determining localization of the infective process, as this is not pertinent to the discussion of a route for infection from tonsil to lung.

The same mode is applicable in the case where the bacilli are absorbed from the intestine. No doubt they pass with the fats into the lacteals, then into the receptaculum chyli and to the thoracic duct, from which they would pass into the venous system and the right side of the heart to pass into the lungs in the blood stream.

THOMAS CAMPBELL, M.D., D.P.H.

Chorlton-cum-Hardy.

# Reports of Societies.

## PRINCIPLES OF EPIDEMIOLOGY.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, held on January 23rd, with the President, Dr. E. W. GOODALL, in the chair, Dr. F. G. CROOKSHANK read a paper entitled "First principles and epidemiology."

Dr. Crookshank, having called attention to a current neglect of or contempt for discussion of first principles, urged that the time had come for an attempt to define the fundamental concepts of epidemiology. He pointed out that much harm had arisen from a tendency, sanctioned by the example of Sydenham in his less consequent passages, to attribute objective reality to the concept of disease.

> Let us, however, acknowledge that, while no "disease" *sui generis*, boasting a single *vera causa*, exists save as a justifiable mental construct, useful and convenient, we may regard the idea of a special disease as one involving the subordinate notions of (1) a single person manifesting (2) a defined group of symptoms, correlated by (3) a single intracorporeal cause.

A similar confusion had worked havoc in epidemiology, and in the speaker's opinion the student should have in mind a "*concept*, similar in construction to that of a 'disease' but of different content; a concept, that is, to which actual prevalences can be logically referred for verification, just as case-occurrences are referred to disease-concepts, in diagnosis. Three notions are again involved: (1) that of the subject deemed to be affected, (2) that of the disorders manifested in or by the subject, and (3) that of the correlating factor, which we speak of as the cause." In the substantive sense, he continued, the old word "epidemy" might fitly replace "epidemic," and the words of Brochin were significant:

> Dans les épidémies, benignes ou dangereuses, il ne s'agit pas d'un homme, mais de la cité, et même de tout un pays. *Civitatem non virum curabis.*

This was no paradox, that the sufferer from an epidemy was never an individual but always a community or group, and its truth became evident the moment that the conceptual aspect was accepted. This was why in order to diagnose an epidemy one must collate cases in a community, while to diagnose a disease one need only collate symptoms in an individual. Neglect of this principle had led to failure to grasp an epidemic manifestation as a whole—to recognize the cavalry scouts of an advancing army. Dr. Crookshank discussed the theory of epidemic constitutions, and remarked that Ballonius, a hundred years before Sydenham, was much nearer the truth than his more famous successor, and better deserved to be described as the father of modern epidemiology. "The events of the latter months of 1918 are well known, but this should be noted, that during the weeks when the names botulism and encephalitis lethargica were so popular professionally not only the general but the special hospitals saw far more than is usual of Landry's paralysis, of ascending myelitis, of transverse myelitis, and the like. To all of this no attention was paid. Interest was focussed on one type of nervous disease alone, and for the first time during many years a new disease was defined on a regional basis without attempt to study the whole of the prevalent disorders in the hope of arriving at some idea of the scope of correlation."

The paper was discussed by the PRESIDENT, Dr. GREENWOOD, Dr. HAMER, and Dr. BUTLER.

## DENTAL SEPSIS IN CHILDREN.

AT a meeting of the Section of Odontology of the Royal Society of Medicine, held on January 26th, the President, Sir J. F. COLYER, being in the chair, Mr. S. F. St. J. STEADMAN read a paper on dental sepsis in children, its consequences and treatment, in which he referred to the deterioration of our national physique as revealed by the physical examination of recruits. He said that the Medical Society of London had commenced an investigation to determine as accurately as possible where we were at fault, but, judging from the report of a meeting held in November, 1918, in which the causes of rejection were classified and in which there was no mention made of dental disease, they were once again overlooking the commonest cause of all. Dr. J. D. Comrie, analysing the physical defects among the general male population, had stated that in 10,000 recruits 928 had artificial teeth, while another 1,120 had lost half their teeth at least, and that a septic condition of the teeth with deposit of tartar and gingivitis was frequently associated with dyspepsia, and invariably with a deteriorated physique. Chronic disease in childhood, the effects of which spread over a period of years, must have a profound influence upon mental and physical growth. Of all chronic diseases of this character dental disease was by far the most common, as something like 80 per cent. of the children of the race were suffering from dental diseases. All were agreed upon the importance to the child of a perfect dental arch. The best way to combat dental diseases was to attempt their prevention, the necessary prophylactic measures being to secure a clean mouth in, and the proper feeding of, the pregnant mother; breast feeding in infancy; the establishment of proper nasal breathing, and proper diet (a diet requiring efficient mastication), and early and constant dental supervision so that caries could be treated early. He was not concerned so much in his paper with the treatment of the children of the rich, for although the fundamental principles were the same for both, in dental diseases, like all other diseases, there was often one means for the rich and another for the poor, and the advice given to a wealthy, leisured mother might be different from the advice given to the busy working class mother.

### *Effects.*

The effects of dental sepsis upon children could be considered under two main headings: (*a*) General; (*b*) local.

(*a*) *General.*—Dental sepsis frequently had a pronounced effect upon children. Their mental and physical growth was retarded; they were pale-faced and anaemic, their eyes had not the normal lustre of healthy children, and they looked tired and sleepy. Sir J. F. Colyer was the first to weigh these children before and after treatment, and in a paper read before the Manchester Odontological Society in 1910, gave the weights of some of the cases he had treated for sepsis. He showed that there was frequently a marked increase in weight, too great to be accounted for by the normal increase of growth; at times the increase following extraction was very marked. From his own experience Mr. Steadman was able amply to confirm these findings.

One of the chief ways by which dental sepsis in children produced this loss of mental and physical growth was by the loss of sleep. A careful investigation of the history of these cases would frequently show that for months the child had not slept well. Its nights had been disturbed by pain. This important symptom had to be looked for, as children did not as a rule complain of it. A common result of oral sepsis in children was gastro-intestinal disorder, as evidenced by gastric and abdominal pain, d arrhoea of an offensive character, with much undigested food in the motions, marked wasting, fretfulness, night terrors, loss of appetite, sleeplessness, and pallor of the face. In treating a case such as this, it would appear reasonable to inspect the mouth first and to remove any possible source of infection therein before proceeding to treat the stomach; yet many medical practitioners still neglected to do this. That this gastro-intestinal condition is due to sepsis and not to lack of mastication, was proved by the fact that the patients frequently got well very soon after extraction of the teeth, and almost before the gums had healed, that is, while they were still too tender to allow of mastication upon the teeth that remained. This

was borne out by the observations of Dr. H. Waller upon dental disease in nursing women. He showed that in many instances in which a breast-fed baby ceased to thrive while still at the breast the trouble could be traced to sepsis in the mouth of the mother. Dr. Waller's charts demonstrated the marked gain in weight of the infants after the extraction of septic maternal teeth. In these cases it was clear that the digestive apparatus of the child was unchanged, and that the improved health had been due to the removal of septic material from its food. As Dr. Sim Wallace pointed out, anaemia of other than dental origin was liable to be aggravated by the chronic toxaemia and septic absorption which might be associated with dental sepsis. Other chronic diseases, such as tuberculosis, could not but be prejudicially affected by an insanitary state of the mouth. Typhoid and scarlet fever and other zymotic diseases had been shown by Dr. William Hunter to be much more dangerous when dental sepsis was present. Further, septic matter from the mouth might be absorbed into the blood stream, and give rise to such diseases as septicaemia and endocarditis.

(*b*) *Local.*—Under this heading he included the adjacent parts to which infection sometimes spread by continuity of tissue, causing such diseases as pharyngitis, tonsillitis, otitis media, and—much more rarely—meningitis. Infection might pass down the lymphatics to the submaxillary and cervical glands. Some observers held that glands were so commonly enlarged in children that it was not worth while examining for them, but he considered that such teaching was absolutely wrong. He thought that normally the submaxillary and cervical glands were not palpable in children, and that if they were, there was sepsis somewhere. Carious teeth frequently produced enlarged glands, as proved by the fact that these glands disappeared after the removal of the teeth. They drained a very large area, including the teeth and oral mucosa, the tonsils, the nasopharynx, the orbits, the skin of the face, and the anterior part of the scalp. Mr. J. G. Turner had shown that sepsis in the deciduous teeth not uncommonly led to damage of the permanent teeth beneath them, as shown by hypoplasia and some of those deformities which had been classed under the term dilaceration. Lastly, the carious tender teeth by disuse brought about a gingivitis, which might spread eventually to the periodontal membrane of the permanent teeth, with all its consequent ill effects upon health.

### *Treatment of Dental Sepsis in Children.*

Mr. Steadman then described his method of treating dental sepsis in children. He extracted all deciduous teeth in which the decay was sufficiently advanced to infect the pulp, and generally their antagonists also. He filled teeth also when he felt sure that the pulp was not affected. This condemned at once the majority of decayed deciduous teeth, because the pulps of these were relatively larger than in permanent teeth, so that a comparatively small cavity was sufficient to infect the pulp. He treated the permanent molar teeth in the same way as the deciduous teeth if the roots were incomplete at the time of the pulp infection. The argument against extensive extraction in children, that mastication was lost, was futile. Medical and dental practitioners who used this argument could see for themselves that mastication was already lost. No child would masticate on tender teeth and exposed pulps. On the contrary, by the removal of tender teeth the area of mastication was increased. An exposed pulp in a deciduous molar meant that the child would not masticate on that side of the mouth, so that the important six-year-old molars behind them were not functional. Experience showed that it was better for the child, if food had to be bolted, that the food should be as clean and as little contaminated by pathogenic organisms as possible. As for the argument that the extraction of teeth prevented the proper growth of the jaw, this, he thought was not borne out by experience, for the removal of teeth from one side of the jaw did not produce deficient growth of that side as compared with the other. The same observation held good if the teeth of the upper jaw, for instance, were removed and those of the lower jaw left. The crowding and irregularities of the arch at a later stage could be overcome if the patient came frequently for dental inspection, so that at the right moment one of the permanent teeth in each corner of the mouth could be sacrificed. It was important to prevent unilateral mastication. On the unused side a marked gingivitis would supervene, and, as the habit was likely to become permanent, the permanent teeth, when they had erupted, would become septic also.

Of the 7,000,000 or so children of this country about 6,000,000 required dental aid. If on an average one hour's work for each child were allowed to be what was required the case would not be overstated. If this work were carried on at the rate of five and a half hours a day it would take one man nearly 3,000 years to complete. This showed that there were not nearly enough dental surgeons available. On the other hand, if all teeth with infected pulps were extracted a tremendous amount of time would be saved. It took a good deal of courage to condemn a large number of teeth in a child. This necessary courage could only be acquired by observing, recording, and pondering over the evil consequences of leaving these septic teeth. A proportion of the dental profession at the present day appeared to lack this courage, or had not yet realized sufficiently the great harm they were doing to their patients by leaving septic teeth. The ignorance of a small but harmful minority of medical practitioners concerning dental matters was nearly as great as that of the general public. They sometimes gave advice on dental matters which was not only incorrect but often extremely harmful. On more than one occasion when he had urged the removal of abscessed teeth which were keeping their possessor awake with pain night after night, besides causing severe general ill health, the medical adviser had stepped in and said that nothing must be done to the teeth until the child's health had improved. Mr. Steadman considered it very important that if in children extensive extraction were decided upon, it should be carried out at one time under a general anaesthetic. In this way much less strain was put upon the nerves of the little patients.

### *Discussion.*

In the course of the discussion which followed Mr. F. N. DOUBLEDAY said that while the function of the teeth was very important, yet when sepsis was established and the teeth were functionless they were useless and redundant, and should be removed.

Mr. F. B. BULL spoke of the importance of the nervous system of the child, which in many cases was such that it was impossible to carry out treatment. Teeth which were septic should be removed at once. He agreed that extensive extraction could be done under ethyl chloride on the open mask.

Dr. ARTHUR SAUNDERS laid emphasis on the excellent results which he had seen in children at the West London Hospital after extraction of septic teeth. The children with septic teeth were often, in addition to being anaemic and wasted, slightly cyanosed, and night sweats were present, so that tuberculosis was often suspected, and the heart was often slightly dilated, a condition which he considered to be due to a mild septic myocarditis, which cleared up after removal of the septic teeth. Slight albuminuria was often present, and nephritis sometimes supervened. Some acute cases of haemorrhagic nephritis due to dental sepsis reminded him of similar cases occurring after scarlet fever.

Mr. E. B. DOWSETT said that the way in which children were able to eat after all the teeth had been removed was remarkable. Those whom he had been able to follow up were able to eat even meat, and thrived well. The occurrence later of irregularity was the only bugbear, but possibly this need not be considered seriously owing to the enormous advantage which followed thorough treatment.

Mr. A. F. PITTS said that Mr. Steadman had brought a serious indictment against the medical men and dentists in stating that some members of both professions did not recognize the serious effects of dental sepsis in children. His experience at the Hospital for Sick Children enabled him to endorse all that had been said with regard to the gravity of the problem and the results of adequate treatment. The effects of dental sepsis, both local and general, were apparent, and equally striking was the improvement in the general health when the mouth was rendered clean. Even when the mouth had to be left practically edentulous the children put on weight and were able to eat their food in comfort. It was astonishing that any man with a medical training should fail to see the harm arising from

septic teeth. Frequently mouths were seen in which necrosed roots had ulcerated through the side of the gum, a condition comparable to sequestra being exfoliated. No doctor would regard such a condition occurring elsewhere with complacency, and yet it was sometimes allowed to exist unnoticed in the mouth. It was true that premature loss of the deciduous teeth often led to irregularity of the permanent teeth, but this lesser evil was so completely overweighed by the greater evil of dental sepsis as to be not worth considering. Some had said that this irregularity was a common predisposing cause of pyorrhoea in later life, but in his opinion dental sepsis in an adult whose metabolism had reached a state of equilibrium, was less serious than sepsis in a growing child, who needed nourishment not only to replace the daily loss of energy but to increase the bulk of its tissues.

Mr. LEWIN PAYNE laid stress on the need for prophylactic treatment. Adequate instruction should be given to parents and children, or the condition would recur in two or three years.

Mr. J. G. TURNER said that extraction was necessary in order to get rid of sepsis. The need of the poor children of London for dental treatment was urgent. All the dentists in the British Isles would not suffice to do all the stopping which should be done. Myopia might result from dental sepsis, the sclera becoming affected by toxaemia or by the malnutrition which accompanied the condition.

Mr. GEORGE THOMSON, speaking of tuberculosis in school children, said that dental sepsis affected the child in two ways: (1) by allowing infection by pathogenic germs, and (2) by resulting malnutrition. The school dental treatment scheme broke down because the number of available dentists was insufficient. Treatment must be begun earlier. He had removed incisors from children of fifteen months. The incisors of babies became denuded of enamel owing to the sugar bag which was given them by their mothers when going to sleep.

## SUSCEPTIBILITY TO FOREIGN PROTEINS.

AT a meeting of the Medical Society of London, held on January 26th, the President, Mr. V. WARREN LOW, being in the chair, various pathological specimens were exhibited, after which Dr. JOHN FREEMAN demonstrated the conjunctival and cutaneous reactions obtainable in patients who are susceptible to various proteins. In the case of hay fever it was shown that a diluted extract of grass pollen, if instilled into the conjunctival sac, produced a harmless and transient injection, while if the tip of a glass rod was charged with the pollen and rubbed into a square scratch in the skin an irregularly shaped wheal resulted. Quantitative testing could be carried out with known dilutions of the extract. Susceptibility to other proteins, to the proteins of horses and other animals, and to various kinds of food, fell into the same group, and the symptoms varied only in accordance with the anatomical position to which the disturbing protein was applied. Thus the severe vomiting and diarrhoea which prostrated some persons who ate eggs or strawberries was of the same nature as the prostration and catarrhal changes in the upper respiratory passages in hay fever. The tests were specific, and denoted which was the particular protein to which a patient was susceptible. Experiments had shown that when susceptibility to a protein was encountered in an individual, other members of the same family often showed a susceptibility to other proteins. With regard to the pollens, that of grass was the only one of importance, though certain persons were susceptible to others. This was explained by its abundance and its lightness, the others being much heavier. Another method of employing the test was to precipitate the protein to be tested out of a watery solution by an excess of alcohol. The solution was then filtered, and the filter paper with its attached precipitate dried. A small square of this paper, protein side downwards, if superimposed on a scratched surface, gave the cutaneous reaction. Sufficient protein to give the faintest opalescence to the solution was enough to give the reaction.

## "SOLDIER'S HEART."

AT a meeting of the Nottingham Medico-Chirurgical Society, held on January 21st, with the President, Dr. W. ROWE in the chair, Dr. C. H. CATTLE, Senior Physician to the Nottingham General Hospital, read a paper on cardiac affections and the war. He said that the condition spoken of as "soldier's heart," though well known in medical literature, had now for the first time in the history of our country become familiar to every practitioner. The principal symptoms were said to be palpitation, breathlessness, cardiac pain, and giddiness. The chief causes were some infective illness, especially rheumatic fever, and the physical and mental strain of warfare. Half the cases of this affection, for which the term "effort syndrome" was an apt description, were taken from light occupations. As so many men were unable to bear strenuous exertion in civil life, the conditions of military service might be said rather to have brought out a latent tendency than to have caused this condition. Methods of identifying the commoner forms of irregularity of the heart were described. Drugs, with the exception of bromides, were comparatively useless in the "effort syndrome." The most successful method of treatment was the system, introduced by Dr. Thomas Lewis, of gradual physical training in a special institution. Some of these men had systolic murmurs, but the murmur *per se* was found to be no bar to the attainment of a high standard of physical endurance. The general adoption of the exercise test was considered to be the greatest advance made in the examination of cardiac cases as a result of the experience of the war. The following conditions called for rejection for the army: enlargement of the heart, mitral stenosis, aortic regurgitation, aneurysm, repeated attacks of rheumatic fever, failure to pass a strenuous exercise test. A systolic murmur in the absence of enlargement of the heart or of symptoms was far more often functional than organic. Aortic stenosis, without regurgitation, was rare. The murmur of mitral regurgitation could not be distinguished from other systolic murmurs at the apex, but this affection, even if its existence could be proved, may be compatible with many years of useful and even strenuous life. On the contrary, the tendency of mitral stenosis and aortic regurgitation was to get steadily worse. The lecture was followed by an interesting discussion in which the PRESIDENT, Drs. JACOB, SCOTT, and FLINT took part.

# Reviews.

## PHYSIOLOGICAL PRINCIPLES IN TREATMENT.

THE first edition of Dr. LANGDON BROWN's popular *Physiological Principles in Treatment*[1] appeared in 1908, and the third in 1914. The war, which delayed the present edition, has necessitated a thorough revision, so that the reader is now presented with a stimulating and thoroughly up-to-date guide to the scientific management of a number of diseases.

The text is clearly written, attractive, and not without occasional flashes of humour; thus, in discussing the difficult subject of purins and gout, the author remarks on the curious obsession which leads men who cannot metabolize purin bodies to believe that the rest of mankind are similarly defective, with the result that the purin-free diet becomes a cult. The sections on diabetes and acid intoxications have been almost entirely rewritten, and embody much of Dr. Poulton's recent work. It is interesting to find that the idea of the building up of the diabetic patient's diet after a fast was independently arrived at by Dr. F. M. Allen, now of the Rockefeller Institute, by Dr. G. Graham, of St. Bartholomew's Hospital, the publication of whose results in any comprehensive form was prevented by the war, and by McCay and his fellow workers in Calcutta, the completion of their investigations being delayed by the same cause. The principal difference between Graham and Allen is that the latter prescribes a long fast until the urine is free from sugar, and then gives carbohydrate in the form of green vegetables accompanied by very little protein, whereas Graham's plan consists in a short fast of forty-eight hours followed by a much more speedy addition of protein. From a comparison of these methods Dr. Langdon Brown considers that, whereas Allen's regimen may remove glycosuria more rapidly, Graham's is less likely to affect the patient's general health injuriously. The treatment of renal disease is set forth on broad lines; the irrational restriction of patients with chronic nephritis to a milk diet, which is too dilute a food and may increase

[1] *Physiological Principles in Treatment.* By W. Langdon Brown, M.D., F.R.C.P. Fourth edition. London: Baillière, Tindall, and Cox. 1919. (Cr. 8vo, pp. viii+427. 7s. 6d. net.)

oedema is condemned, and it is pointed out that prolonged nitrogen starvation is as bad for a nephritic patient as for anyone else.

The book contains a graphic description of the symptoms of high blood pressure in the presclerotic stage before structural change has supervened and when preventive treatment can be effectively employed. There is a useful section on the soldier's heart, embodying the knowledge gained in the war. While the text is not overladen with names, due credit is given to those who have recently advanced our knowledge, and the principal references are conveniently arranged at the end of the volume.

## THE INTERNAL SECRETIONS AND THE NERVOUS SYSTEM.

THIS monograph on *The Internal Secretions and the Nervous System*[2] is a translation of a report written by Dr. M. LAIGNEL-LAVASTINE of Paris for a congress at Berne in 1914, but not delivered on account of the war, though it was published in the same year in the *Revue de Médecine*. It has now been translated by Dr. F. T. ROBESON of New York, who has added some notes on more recent work, a preface and an introduction. The book presents us with a wide summary of what has been written on this subject, much of it somewhat speculative, and will undoubtedly be a useful source of reference, especially as to the meaning and bearing of vagotonia and sympathicotonia.

The author argues that there are in the first place nervous disorders due to disturbances of the internal secretions, and in the second place anomalies of the internal secretions as the result of nervous disorders, and tabulates these with a running commentary; thus nervous disorders may be due to disturbance of one endocrine gland or to polyglandular syndromes, and in the latter alternative one endocrine gland may be more responsible than the others. The vegetative, formerly called as a whole the sympathetic, system was divided by Professor J. N. Langley into the cephalic and pelvic portions of the autonomic system, and the remainder, still called the sympathetic system. These two portions of the vegetative nervous system are antagonistic, and, as is well known, Eppinger and Hess have insisted on the proof of this by the different reactions in the two conditions to the injection of adrenalin, pilocarpine, and atropine, and apply the term vagotonic to individuals in whom the activities of the autonomic system predominate, and describe as sympathicotonics those in whom the sympathetic is most active. This differentiation has aroused considerable criticism, and it is extremely doubtful if the question is so simple as might at first sight appear. Of the two groups mentioned above, the nervous disorders due to disturbances of the internal secretions are of more practical importance than the disturbances of the endocrine glands caused by nervous disease.

## DENTAL CARIES AND ORAL OSMOSIS.

DR. RAGNAR ECKERMAN, a dentist of Malmoe, Sweden, has published in English a book under the title, *Dental Caries in Relation to Oral Osmosis*,[3] which gives a full account of researches and theories he reported to the Congress for Natural Sciences in Vienna in 1913, and published in Sweden in the same year. The theories and observations are very fully stated and amply illustrated in the book before us. Perhaps on account of this elaboration Dr. Eckerman's views are not always quite easy to follow, but we gather that in his opinion there are two kinds of caries—a primary which is a physiologico-pathological state, and a secondary which is a breaking down of substance by micro-organisms. Primary caries, he considers, commences from within, beginning at the tooth pulp and spreading outwards to the surface of the enamel, being of the nature of an osmotic outflow of blood plasma, and even red blood cells, brought about by an excess of common salt or sugar in the saliva. The channel by which this interchange takes place is the dentinal tubules and certain spindle-like spaces in the enamel which are to be found, in the one direction communicating with the peripheral ends of the dentinal tubules, and in the other extending occasionally to the enamel surface immediately under the cuticula dentis (Nasmyth's membrane) which forms the osmotic membrane.

As proof of the internal origin of primary caries the author lays great stress on what he calls the caries canal. This is a cone-shaped area of more or less coloured dentine, having its apex at or towards the pulp and its base under the carious enamel. He considers that its colour is due to blood plasma, and that in all cases of primary caries the connexion with the pulp is demonstrable. He appears to hold that the primary caries is limited to the crown of the tooth, and depends on the fact that owing to too early eruption or to malnutrition the enamel has been badly formed, thus giving full play to the osmotic force of saliva too rich in common salt or sugar. The consequence of this outpouring of plasma into the dentine is an excess of organic matter in that tissue, and in this the author finds an explanation of the increase of organic relative to inorganic matter in carious dentine. At this point micro-organisms come in and "primary" merges into "secondary" caries, which the author allows is a bacterial process. While accepting bacteria as a cause of secondary caries, the author spares no effort to disprove the possibility of their being concerned with primary caries. He would, as we understand, limit the term secondary caries to such caries as arises on the exposed roots of teeth or in places where plates, etc., have held up food débris; but the arguments by which he seeks to exclude micro-organisms from the causation of "primary" caries seem equally applicable to their exclusion from that of "secondary" caries.

We are, indeed, unable to follow the author in his arguments, nor have we been able to determine whether his idea of caries embraces both enamel and dentine or is limited to the dentine. The arguments he advances to disprove the chemico-parasitic theory seem to reveal a failure to appreciate some of the principles of bacteriology and a capacity to turn a blind eye to awkward facts. He triumphantly points to the cessation of the carious process after burial as a proof of the innocence of bacteria, ignoring the lowered temperature and absence of food supply. He seems not to have seen those distressingly frequent cases in which caries is found in tooth after tooth till every available spot is decayed. He regards the symmetry of caries as proof of its independence of bacteria, whereas the theory that caries depends on the lodgement of germs and carbohydrates obviously demands the symmetrical appearance of decay in the two halves of a symmetrical dental arch. His proof of his thesis seems to depend largely on the existence of his "caries canals" and on the supposition that the minute traces of iron found in dark-coloured decay are derived from blood drawn from the dental pulp. He fails, we think, to establish his claim that the "caries canals" are osmotic paths starting from the pulp. He states that he has always found these "caries canals"—tracts of discoloured dentine—stretching from the earliest stage of enamel decay right to the pulp; we would, however, prefer to adopt the generally accepted opinion that it is only in the later stages of decay that a discoloured tract extends right to the pulp, while in the earlier stages a layer of healthy dentine intervenes between the advancing decay and the pulp. In this connexion it is interesting to note that the author seems never to have seen the lateral spread of caries along the "interglobular layer" (situated at the dentine-enamel junction); he, indeed, publishes what he considers a hypothetical figure of how decay should spread in this layer if micro-organisms were causative agents, which figure is, in fact, a very fair representation of what constantly happens.

The presence of traces of iron in decayed dentine can be explained in other ways than as an exudate from the tooth pulp, but even if the haemoglobin of red blood cells derived by diapedesis from a hyperaemic pulp were carried by the dentinal lymph circulation to the edges of the carious dentine the author's thesis would not be helped, the appearance of iron being merely an expression of the normal life-activity of the dentine.

We are compelled to dissent from the author's theory, but we hasten to add that the book will be found to contain much valuable matter and to provide much

[2] *The Internal Secretions and the Nervous System.* By Dr. M. Laignel-Lavastine of Paris; authorized translation by Dr. F. T. Robeson, New York. Nervous and Mental Disease Monograph Series, No. 30, 1919. New York and Washington: Nervous and Mental Disease Publishing Company. (Roy. 8vo, pp. xiv+59. 0.75 dol.)

[3] *Dental Caries in Relation to Oral Osmosis.* By Ragnar Eckerman, Ph.D., L.D.S. London: Williams and Norgate. 1919. (Roy. 8vo, pp. 264; 20 plates. 22s. net.)

stimulating reading to all engaged in research on dental caries. We welcome Dr. Eckerman's contribution to the elucidation of this great problem.

## PUBLIC ASPECTS OF THE VENEREAL PROBLEM.

DR. E. T. BURKE'S book on the *Venereal Problem*[4] is written, as the preface states, for the information of the general public; in the introduction its object is said to be "to bring together, in a manner fit for general consumption, the causes of venereal diseases, to point out the factors which cause the continuance and spread of these affections, and to try to indicate the paths along which advancement may be hoped for."

This is undoubtedly a laudable object, but at the same time it may be questioned whether books of this nature are the surest means of attaining such an end. Many of the arguments are reinforced by tabulated figures illustrating such things as the incidence of venereal diseases in different sections of the community. Unfortunately, accurate knowledge in these matters is not available, hence deductions drawn from such statistics are unlikely to be reliable. We would also be inclined to disagree with the statement that the child is infected by means of the spirochaete entering the ovum along with the spermatozoon, the mother becoming infected through the placenta (page 43).

Every medical practitioner is keenly alive to the dangers of the disorders with which this book deals, and few are not at some time brought into contact with the disastrous results following infection. That they inflict an appalling degree of ill health on the community cannot be gainsaid. Whether compulsory notification and treatment, as favoured by the author, is the solution of the problem or not, is a larger question than can be dealt with in this review. Those who favour such measures overlook the confidential relationship that has always existed, and should exist, between doctor and patient—a priceless heritage not to be lightly cast aside. It has been argued that this confidence is sacrificed when diseases like scarlet fever are publicly notified. But the distinction, and it is very important to observe this, lies in the mode of origin of venereal diseases, a factor which influences the patient to hide his malady from the knowledge of others. Nor is this tendency, common to all classes and countries, altered by the use of catch phrases such as "conspiracy of silence" and the like. Herein lies the true difficulty of the problem, and no successful solution is possible that neglects this factor. Medical practitioners are not policemen; they receive the confessions and confidences of their patients, and any effort to disturb such a proper relationship can do no real good either to the public or to the profession.

## NOTES ON BOOKS.

THE second edition of *Elementary Practical Chemistry*,[5] by MYERS and FIRTH, provides medical students preparing for their first examination in practical chemistry with a thoroughly sound and well written textbook. The authors claim that they have had regard to the requirements of the syllabuses of most of the medical examining bodies in the British Isles. The book is clearly the work of practical chemists who are also experienced teachers. It is divided into four parts, dealing respectively with the general methods of chemical manipulation, qualitative and quantitative inorganic analysis, and practical organic chemistry; the text is illustrated with a number of simple but excellent diagrams of apparatus. The volume is well written and not too long.

*Chemistry in Everyday Life*[6] is a chatty volume designed to whet the appetite of the man in the street, and show him how useful an elementary knowledge of chemistry is in every trade, profession, or occupation. It deals in generalities and covers a great deal of ground; it may be recommended to readers of all ages, sorts, and conditions.

[4] *The Venereal Problem*, by E. T. Burke, D.S.O., M.B., Ch.B. 1919. London: Henry Kimpton.

[5] *Elementary Practical Chemistry*. For Medical and Other Students. By J. E. Myers, D.Sc.Vict., A.I.C., and J. B. Firth, M.Sc.Vict., M.Sc. Durham, A.I.C. Second edition, revised. London: Charles Griffin and Co., Ltd. 1920. (Cr. 8vo, pp. viii+194; 22 figures. 4s. 6d. net.)

[6] *Chemistry in Everyday Life*. Opportunities in Chemistry. By Ellwood Hendrick. London: University of London Press, Ltd. 1919. (Cr. 8vo, pp. xii + 102. 3s. 6d. net.)

Professor JOHN B. ROBERTS'S *War Surgery of the Face*,[7] a treatise on plastic restoration after facial injury, was prepared at the suggestion of the subsection on plastic and oral surgery connected with the office of the Surgeon-General U.S. Army, and it must be confessed that the impression gathered from its pages is rather of a laborious compilation than of the outpourings of a full heart. There have been of late several publications brimming with the enthusiasm of recent accomplishment, and full, therefore, of the greatest interest and instruction for the reader; this volume can hardly challenge comparison. It is not that there is not an immense amount of useful information, though the bibliography is deficient, but there is an unnecessary inclusion of matter not strictly relevant. Plastic surgery is not for the novice, and the skilled surgeon does not want to be told how to treat chilblains with tincture of iodine. The book is profusely illustrated, largely with borrowed pictures.

The fourteenth edition of *Pye's Elementary Bandaging and Surgical Dressing*,[8] brought up to date by Mr. V. Z. COPE, provides dressers and nurses with a friend in need of proved value. It is divided into three sections, the first dealing with bandages and splints, the second with dressings, the third with the immediate treatment of emergencies. This little book contains a great deal of valuable information, and is both well written and adequately illustrated.

The author of *Aids to Histology*[9] has endeavoured to produce a summary of the subject, with the aid of a few diagrams. The task, we take it, is impossible. The book is intended for the junior student of medicine, and for senior students when revising their knowledge.

[7] *War Surgery of the Face*. A Treatise on Plastic Restoration after Facial Injury. By John B. Roberts, A.M., M.D., F.A.C.S., Professor of Surgery in the University of Pennsylvania Graduate School of Medicine, etc. London: John Bale, Sons, and Danielsson, Limited. 1919. (Med. 8vo, pp. viii + 442; 256 figures. 20s. net.)

[8] *Pye's Elementary Bandaging and Surgical Dressing*. Revised from H. W. Clayton-Greene's eighth edition of *Pye's Surgical Handicraft*. By V. Zachary Cope, B.A., M.D., M.S.Lond., F.R.C.S.Eng. Fourteenth edition. Bristol: John Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1919. (3½×5½, pp. 232; 89 figures. 3s. 6d. net.)

[9] *Aids to Histology*. By Alexander Goodall, M.D., F.R.C.P.Edin. Second edition. London: Baillière, Tindall, and Cox. 1919. (Fcap. 8vo, pp. viii + 135; 20 figures. 3s. net.)

## APPLIANCES AND PREPARATIONS.

*Amibiasine.*

A FRENCH preparation named amibiasine, manufactured by the Laboratoire de l'Amibiasine, 29, Rue Miromesnil, Paris, has been submitted by the Anglo-French Drug Company, Limited, 238A, Gray's Inn Road, W.C.1. It is stated to be a compound extract of the bark of the mangosteen (*Garcinia mangostana*), a tree well known in the Far East for its fruit. It is claimed that the preparation has a strong antiparasitic effect, and is useful in the treatment of dysentery and diarrhoea. The sample supplied to us consists of a brown liquid having an intensely bitter taste and slight odour. Examination shows it to contain some alcohol and 15.8 per cent. of solid matter consisting of vegetable extractive together with a considerable proportion of glycerin. No active ingredient other than the bitter principle could be detected. We are unable to express any opinion on the therapeutic efficacy of the preparation, but the makers state that it has been used in the French Army Medical Department.

*Petroleum Jellies.*

Messrs. William Browning and Co., Ltd., Albert Works, Park Street, N.W.1, have submitted to us samples of a series of four soft paraffins which they are now supplying under the proprietary name "Semprolia," for medical and veterinary purposes. Examination of the samples shows that they possess the following characters: "Semprolia" No. 1 Petroleum Jelly is a very white, soft paraffin, quite free from odour and taste. Its melting point is slightly higher than that of an average soft paraffin, but not sufficiently so to be any serious disadvantage; in other respects it complies with all the tests of the *British Pharmacopoeia*. It should be quite suitable for internal administration, or for any other purpose for which a soft white paraffin of high quality is required. "Semprolia" Nos. 2 and 3 Petroleum Jellies are respectively yellowish-white and yellow soft paraffins, complying with all the tests of the *British Pharmacopoeia*, and of good quality. "Semprolia" No. 4 is a yellow soft paraffin of lower grade, which is intended for veterinary use, and which, in our opinion, is quite suitable for this purpose.

British Medical Journal.

SATURDAY, FEBRUARY 7TH, 1920.

## INFLUENZA.

ALTHOUGH the Registrar-General has not, down to the time of writing, recorded any notable increase of the mortality attributed to influenza, and recent augmentations of notified pneumonia may only reflect normal seasonal conditions, events in other countries justify the warning issued by the Ministry of Health; it is probable that another influenza wave is gathering head. In the calm, which may well be the calm before a storm, and while the floodgates of eloquence are still shut and exhortations to the public health authorities still undelivered, it is good to take stock of our position.

Some pious persons and all journalists have referred to the Armageddon of 1918, but perhaps the opening of the fourth seal would have been an apter comparison; power was certainly given "to kill with sword, and with hunger and with death" over not much less than a fourth part of the earth. In 1918 we entered upon a new epidemiological epoch with but one historical parallel—that of the fourteenth century. Dr. F. G. Crookshank, in the scholarly paper which he recently read to the Epidemiological Section of the Royal Society of Medicine, quite properly drew attention to the neglect of general principles, the narrow particularism which has characterized all popular and too much professional literature dealing with the recent prevalences of epidemic disease. The great factors governing what we may term a pandemic respiratory constitution may be similar even when the bacteriological *verae causae* are different. Whatever be the pathogenic cause of influenza, it is certainly not *Bacillus pestis*; yet the epidemiological affinities of the fourteenth century pneumonic plague and the influenzas of 1918–19 are close. The herding together of human beings under conditions transcending those of ordinary intra-domestic overcrowding appears to be a necessary link in the chain of causes which connects endemic and pandemic respiratory diseases. Plague was not abnormally virulent or widespread in the East before the Black Death; it was in the beleaguered Crimean town of Kaffa, the conditions of which de Mussis graphically described, that something happened which led up to the European pandemic. Upon a smaller scale the same sequence of events was observed in Manchuria in 1910. The primary focus, whether scattered "endemic" cases or an epizootic, is shrouded in obscurity—absolute for the fourteenth century, nearly so for the twentieth—but the incubating chamber, the besieged mediaeval town thronged with fugitives, or the crowded caravanserais of the Chinese hunters in Manchouli, is obvious.

In the specifically distinct case of influenza, it seems probable that a similar stage must intervene before the sporadic passes into the epidemic or pandemic form. Large numbers of human beings must be brought into close temporary association that a stable infective strain may be evolved. Such breeding grounds have been provided with the utmost profusion and in many parts of the world during the last five years. The conditions of fourteenth century Kaffa have been reproduced in the war zone with more than the horrors recorded by de Mussis; they continue to be found, if with less grim accessories, on the tube railways of most cities. In this way we must suppose that a new epidemiological equilibrium has been established. Doubtless the equilibrium is unstable. If it be possible to restore the old standard of life, to break up the mobs of desperate half-starved men and women herding together in cities of Europe, to restore some of the amenities of civilized life, the centre of gravity will again move. But it will move very slowly. The ground conquered by the enemy will not be relinquished more rapidly than it was won. We must not expect to see the end of the present epidemic constitution this year or next year. It is the habit of all men to take short views, to neglect remoter causes and to seek scapegoats, especially when confronted with epidemic disease. Many seem to think that influenza occurred spontaneously, sprang fully armed from the head of Zeus, and may be arrested if only some genius can devise an appropriate vaccine.

In our judgement the sequence of events although mysterious, inasmuch as the precise mechanism, the pattern of the chain, is unknown, is still a real sequence of cause and effect. There is room for controversy as to details, but there is no doubt that those who, like Dr. Hamer, Dr. Crookshank, and a few other epidemiologists, have seen in cerebro-spinal fever, encephalitis lethargica, and pandemic influenza associated manifestations of a new epidemic constitution, judged wisely. With history to guide us, we need not throw back the responsibility upon the "skiey influences" of Sydenham, but can adopt as a reasonable working hypothesis the opinion that the unrivalled opportunities for passage afforded by the social conditions of 1914-18, have combined to standardize an infection which, whatever we may do, and however many scapegoats we drive into the wilderness, whatever panaceas we cry up or down, must continue to take toll of human life until in the course of years a new equilibrium is established.

Does this inference conduct us to a sullen fatalism? must we fold our hands and accept our fate? By no means. Rebuilding of the shattered social order, elevation of the general standard of life, will not "stamp out" influenza this year or next year, but it will steadily reduce the probability of its recurrence in the future. Research into the microbiology of the clinical disease, the controlled employment of vaccines, a really impartial study of their effects, will not prevent epidemics but may do valuable service in the cause of individual prophylaxis. A heedful organization of domiciliary and institutional treatment can save many lives. There is room for much fruitful labour, none for idle boasting or half suggestions that we are almost on the point of discovering a sovereign specific.

Lastly, as to the probable extent of mortality to be anticipated. On the unfavourable side, we must observe that the evil conditions which generate overcrowding, particularly that extra-domestic congestion whether in armies or upon means of public transport which, as the Ministry of Health suggested in its recent memorandum, is probably a more important factor than intra-domestic overcrowding, still exist. So far as the metropolis is concerned, the overcrowding of public vehicles is even greater than in 1918. Hence it may be that the noxious properties of the infective organism will reach an even higher plane than before. On the favourable side, we note the opinion of the Ministry of Health that some immunity was conferred by previous attack, and the fact that the third of the three 1918–19 waves lasted a shorter time and killed fewer persons than the autumn

disease. We might add that the enormous total mortality of the late waves must have eliminated an appreciable proportion of the very susceptible units and that the age-incidence was at the end of the late cycle reverting towards the customary pre-pandemic and less fatal type.

Upon the whole, then, we do not expect that the anticipated outbreak will attain the dimensions of that of September–December, 1918, and think that it may even fall short of what we experienced a year ago. It is said that the epidemic now raging in Italy is not so mortal as before, but details are lacking. Newspaper reports, however, affirm that in parts of Switzerland the current influenza is very fatal. Official figures from New York and Chicago record as many as 10,000 cases in each city for the week ending January 24th, but the deaths have been few. The evidence does not therefore warrant any confident prediction.

## THE SALE AND ADVERTISEMENT OF ABORTIFACIENTS.

AT the Central Criminal Court, on January 21st, Mr. Justice Darling, towards the close of his summing up of the trial of two men on charges alleging an illegal operation, expressed the hope that the authorities and those having the power to legislate would take care to stiffen the law regarding abortifacients, "and see that it is more strictly enforced with regard to these improper and dangerous practices." The need for strengthening the law as to the advertisement and sale of abortifacient drugs has long been urged by the British Medical Association. Between 1893 and 1905 the attention of the profession was repeatedly drawn in this JOURNAL to the prevalence in the Midland counties of cases of plumbism in women, caused by the ingestion of diachylon (lead oleate), with the object of procuring abortion. Hundreds of cases of lead poisoning from this cause were then occurring every year, so much so that in the out-patient rooms of the Nottingham and Sheffield hospitals it became a routine practice to examine the gums of women patients. In view of the danger to health and life arising from this practice, the Medico-Political Committee of the British Medical Association appointed in 1906 a subcommittee to investigate the evil and to make suggestions for checking it. A paper by Dr. Arthur Hall and Dr. W. B. Ransom, published in our issue of February 24th, 1906, gave an idea of the magnitude of the evil then existing in South Yorkshire and the Midlands of England. In a leading article of the same date we represented that this matter claimed earnest consideration by the Legislature.

As a result of the deliberations of the subcommittee and of consultation with the Pharmaceutical Society and the Coroners' Society, steps were taken to bring the subject to the notice of the profession through the Divisions, and a communication was addressed to the editors of lay newspapers. In March, 1906, representations as to the necessity of scheduling diachylon as a poison under the Pharmacy Acts were addressed to the Privy Council, but without success. The sale of preparations of this kind without a Government stamp was brought to the notice of the Board of Inland Revenue. Meanwhile the general question of the advertisement, exhibition, and sale of drugs and appliances for procuring abortion had been under consideration. After consultation with the London Council of Public Morality, a letter and memorandum had been addressed to the Home Secretary in November, 1905, urging the necessity for amendment of the Indecent Advertisement Acts; subsequently it was decided to support a bill for this purpose to be prepared by the London Council of Public Morality. In 1908, a Joint Committee of both Houses of Parliament (the Lotteries and Indecent Advertisements Committee) having been appointed, the Association tendered evidence on the lines of the original memorandum. The Joint Committee recommended, among other things, that the advertisement and sale of drugs or articles designed for promoting miscarriage or procuring abortion be made illegal, and that to advertise drugs or articles designed for the prevention of conception should also be illegal. In making these recommendations due regard was had to the protection of bona fide medical practitioners and chemists. Effect would have been given to them by a bill introduced in 1909 by Lord Braye [Indecent Advertisements (Amendment) Bill, H.L. 209], but the bill was dropped. In 1912, at the request of the White Cross League, the Council of the British Medical Association addressed a memorial to the Home Secretary, bringing to his notice the recommendations of the Joint Committee and the earlier recommendations of the Association. Meanwhile the Association had been preparing the evidence given before the Select Committee on Patent Medicines in the same year. A memorandum submitted to the Committee contained recommendations, on the lines already indicated, for the regulation of the sale and advertisement of medical preparations and appliances designed to procure abortion. The final recommendations of the Select Committee embody the policy of the Association, and include the following specific references to this matter: 57 (2) That the Indecent Advertisement Acts be amended on the lines of Lord Braye's bill. 58 (4) That all advertisements likely to suggest that a medicine is an abortifacient be prohibited. (9) (*a*) That it be a breach of the law to enclose with one remedy printed matter recommending another remedy.

In 1906, the National Commission on the Birth Rate having reported in favour of restriction or prohibition of the manufacture and sale of a particular preparation of lead, occasion was taken to bring to the notice of the Privy Council the original memorandum of March, 1906, on the subject of diachylon and lead poisoning. Diachylon was placed in Part I of the Poisons Schedule in April, 1917. In 1918 steps were taken to ensure the inclusion in the Criminal Law Amendment Bill of that year of a prohibition of the sale and advertisement of abortifacients, but the bill was dropped.

This is where the matter stands to-day. The British Medical Association has succeeded in procuring the most effective available restriction on the sale of one abortifacient, the reckless sale of which was entailing terrible consequences on the credulous purchasers—for there is surely no misfortune greater than loss of sight. It has succeeded in convincing a Select Committee that the advertisement of abortifacients should be prohibited by law, and though hitherto disappointed in securing legislation to this effect it does not despair of attaining the object in view.

## THE TERRITORIAL ARMY.

THE Secretary of State for War, in his address to a meeting of representatives of the Territorial Force Association of Great Britain on January 30th, outlined the scheme for reorganizing the Territorial Force which has been evolved by the War Office after several meetings between the Army Council and the Territorial Force Association. According to this scheme the British Army is in future

to be organized in two main branches—the Regular Army and the Territorial Army. The Regular Army will be associated with the special reserve battalions necessary to provide it with its own drafts in time of war. For these battalions the old constitutional name "Militia" will be revived. In addition it will have its own reserve, which will be fed by the serving battalions as time passes, and men leave on completion of their engagement. The Territorial Army is to be freed from the responsibility of producing drafts for the Regular Army and to be the sole means of expansion for the British Army in time of war. The purpose of the Territorial Army is to be imperial defence, including the country's obligations to France and Belgium. It will be embodied only when a Royal Proclamation has called out the reserves, and shall be sent overseas only if a fresh Act of Parliament has been passed authorizing its dispatch to a theatre of war. If and when such an emergency arises and the Regular Army and its reserves have gone overseas, and if Parliament then passes the Act, those who enlisted in the Territorials will be the next to go, and on them and on the Regulars the first shock of the war will fall. Mr. Churchill said that there would be fourteen Territorial divisions, and that the yeomanry, of which there are now fifty-five regiments, will provide a cavalry division of ten regiments for the mounted service of the fourteen divisions. A certain number of yeomanry regiments will be kept under the same liability for overseas service as King Edward's Horse, but the rest will be required to form the Field and Mountain Artillery and Motor Machine Gun Corps of the Territorial Army. The war establishment of the Territorial Army is to be 345,000 men, but in the first instance the intention is to recruit it to 60 per cent., or a little over 200,000 men. No reference was made to the special branches, such as the medical. It was stated that the Regular Army and the Territorial Army will be completely self-contained, by which we understand that it is intended each army shall be complete in itself, and independent of the other as regards drafts, etc. The two armies, the Regular and the Territorial, will, however, both be under one direction, that of the War Office; the Territorial Army will be liable to go abroad at a very early stage, and any variation in organization must therefore be avoided, for in the field there must be only one command, one common administration, and identical equipment. These considerations would seem to imply a single Director-General Army Medical Services, who would be finally responsible to the Army Council. On the other hand, it is equally clear that the D.G.A.M.S. must be assisted by officers on his staff intimately acquainted with the characteristics of the component parts of the army. This would apply particularly to personnel, terms of service, methods of recruiting, training, and pay. The question whether it would not be advisable to have a Territorial Medical Advisory Board to advise on Territorial medical administration is one which must be fully considered, but Mr. Churchill promises a fuller statement when he introduces next month the Army Estimates; he will then describe the general scheme of the post-war organization of the British armies as a whole. A White Paper is promised, but has not been issued at the time of writing. We have no doubt that as soon as sufficient information is available the Naval and Military Committee of the British Medical Association will review the situation as it affects the medical branch of the Territorial Army and the relation to that branch of the civil profession. So far as we can judge from what has already been made public, the adoption of the War Office scheme would make it essential that the D.G.A.M.S. should be adequately advised in regard to the special aspects of Territorial service by a competent Territorial officer on his staff, charged with the administration of the medical service of the Territorial Army and responsible for maintaining liaison with the regular service.

## HYPERGLYCAEMIA IN MENTAL DISORDERS.

In an article showing evidence of much practical and literary research Kooy,[1] of the Psychiatric and Neurological Clinic at Groningen, Holland, considers the question of hyperglycaemia in mental disorders. Starting with the frequency of glycosuria in melancholia, which Schultze and Knauer observed in 67 per cent. of their cases, and arguing from W. B. Cannon's work that psychical disturbance sets up stimuli travelling by the splanchnics, chiefly the left, to the suprarenals, and thereby causes an increased secretion of adrenalin, which mobilizes the glycogen, and thus leads to an excess of sugar in the blood, and so to glycosuria, he investigated the blood sugar by a modification of Bang's method in a number of mental disorders. The standard was first obtained by examination of the blood sugar in ten normal women and ten normal men, the blood being taken before breakfast and three-quarters of an hour, one hour and a half, two hours and a quarter, and three hours after that meal; the average per mille being 0.98 before food and the highest 1.16 at one and a half hours after food. In epilepsy and dementia praecox the blood sugar was not increased unless there was excitement, and the same result was obtained in the cases classed as amentia. In melancholia hyperglycaemia before breakfast (spontaneous hyperglycaemia) was not constant, but was well marked after food and after anxiety. In mania the blood sugar was often increased, and was highest in real emotional states, such as occur in mania at its climax, but was less in the mild form, and absent when the patient was optimistic, cheerful, and inclined to be jocular. Hyperglycaemia in mental disorder is ascribed to the effect of fear and anger, which phylogenetically are old psychical states, and hence man when so affected reacts in the same way as Cannon and Crile have shown animals do. If this assumption be true, there should be evidence in melancholia of other manifestations of increased stimulation of the sympathetic, such as raised blood pressure, rapid pulse, dilated pupils, erection of hair, as well as hyperglycaemia. Investigation of sixty cases of melancholia supported his contention to such an extent that the working hypothesis of hypersecretion of adrenalin in melancholia is put forward, though in some points proof is wanting. The constipation in melancholia is discussed at length, and is regarded as due to emotion, just as in animals intestinal inhibition may be so caused. In our issue of March 8th, 1919 (pp. 267–271) there was an article on the physiology of hyperglycaemia and glycosuria by Professor H. J. Hamburger of Groningen, who showed that in frogs hyperglycaemia so modified the glomerular epithelium that sugar passed through, but that normally this epithelium prevented the escape of free glucose. The investigation of blood sugar has therefore recently received considerable attention in Groningen from independent and different points of view.

## LETHARGIC ENCEPHALITIS.

In communications made recently to the Académie de Médecine in Paris MM. Netter and Achard have reported the occurrence of a considerable number of cases of lethargic encephalitis in Paris and its suburbs. At a meeting on January 6th M. Netter said that he had seen twelve cases since November 26th, and had heard of twenty others. His own cases occurred in different parts of Paris, one in a suburb; no second case had been observed in relation with any of them. A correct diagnosis had, he said, been made in five cases by doctors who had never seen the disease before, and this he attributes to the accuracy of the description of the symptoms he had given to the Académie in May, 1918. Of the three cardinal symptoms—fever, somnolence, and diplopia followed by temporary paralysis of accommodation—the first two were constantly present in the recent cases, but

[1] F. H. K., *Brain*, London, 1919, xlii, 214–289.

diplopia was not observed in a third of them. The hypoglossal nerve was involved in three cases, and the facial in two. Three had tremors and one generalized convulsions. In two there was profuse salivation. There had been two deaths among his cases; two others had completely recovered, and the remainder were still under treatment. At a meeting on January 20th M. Netter said that he had since seen nine other cases, and that the number in Paris and its suburbs exceeded one hundred. He read a note from MM. Combemale and Duhot reporting a series of five cases of lethargic encephalitis in Lille. The first case was that of a man taken ill on September 3rd, 1919, three days after his return from Algeria; the second and third cases occurred in the third week of December, the fourth at the beginning of January, and the fifth on January 13th. Somnolence and ocular paralysis were present in all the cases, and in some other cranial nerves, especially the facial, were affected. The pressure of the cerebro-spinal fluid was increased in all cases, but in only one was it very high. Two other cases had been reported in the neighbourhood of Lille, but no relation could be traced between any of the cases. In two of the cases reported by M. Achard lumbar puncture disclosed marked lymphocytosis, which gradually diminished, and he pointed out that the occurrence of lymphocytosis under these conditions should not be held to negative a diagnosis of lethargic encephalitis, a certain amount of meningeal reaction being apt to occur. This is in agreement with the observations of Dr. James Mackintosh,[1] who found that the pia arachnoid was slightly involved, the lesion consisting usually of an increase in the cellular elements, particularly in the neighbourhood of the blood vessels. In one or two instances only did he observe a number of cellular elements sufficiently great to form an actual mass. M. Netter confirmed M. Achard's statement that the existence of lymphocytosis in the cerebro-spinal fluid did not negative a diagnosis of lethargic encephalitis and agreed that it rapidly diminished. Both authorities referred to the fact that in 1918 and again this year the cases of lethargic encephalitis occurred during an epidemic of influenza. M. Achard suggested that influenza might prepare the way for encephalitis, and M. Netter thought that it was merely an instance of the contemporaneous occurrence of two analogous diseases. He said further that he had recently obtained information of the occurrence of several cases of lethargic encephalitis in a family, in a house, or in a place of business, some occurring at the same time and others after somewhat long intervals. The last fact led him to suggest that, as he believed to be the case with poliomyelitis, the infective agent must be carried in the nose or mouth of convalescents or healthy persons previously in attendance on the sick. A case of the disease has recently been notified at Hanwell, Middlesex, and several isolated cases have been observed in the east and south of France.

## PUERILISM OF WAR.

IN 1903 E. Dupré described, under the title of "mental puerilism," a form of altered personality in which there is a reversion to an infantile state. Piéron,[2] in a recent review of the subject, pays special attention to its occurrence during the war, and relates eight cases, one of which was watched for three years. In the historical summary pre-war knowledge is first dealt with: the pathological state of puerilism has long been recognized in three very different mental conditions—in the insane, in hysteria, and in patients with cerebral tumours; examples of these are quoted. Six reported cases precipitated by exposure to explosions or mental shock are referred to, and then the author's eight cases are described in detail. In puerilism the personality reverts to that of childhood, the tastes, feelings, appetites, speech, and gestures being those of a young child. In the cases of war puerilism both physical trauma and emotional shock are possible factors, but the latter is regarded as the more important, though its morbid effect is favoured by antecedent or concomitant trauma, which renders the nervous system susceptible to auto-intoxication. Commotional–emotional puerilism should be regarded as a curable condition, though improvement is slow. The treatment usually indicated is that for shell-shock, but Piéron has administered orchitic extract. Puerilism may be complete or partial, and has been divided into two main forms: (1) Apparent, which is always complete, and is due to suggestion, either from within or without, and is allied to pithiatism; (2) real, which may be partial, and is that seen in the insane, in cerebral tumour, and in most of the commotional and emotional war cases; there is a child's mind in an adult's body, amnesia is not constant and affects recent events, as in an old man in his dotage. True puerilism is due to the combined action of three pathogenic factors: (1) Cerebral insufficiency with more or less complete loss of the inhibitory mechanism of the cortex and of the intellectual acquirements, and with retrograde amnesia; (2) genital insufficiency with diminution or complete loss of the internal secretions of the sexual glands and disturbance of the endocrine balance; and (3) disorder of the affective functions, characterized by abolition of the biological activities (in part due to genital insufficiency), of the social powers (partly the result of cerebral failure), and by exaggeration of the primitive impulses which are no longer inhibited.

[1] Report of an Inquiry into Encephalitis Lethargica. Local Government Board. New Series, No. 121. 1918.
[2] H. Piéron: *Rev. de méd.*, Paris, 1919, xxxvi, 300-345; 410-437.

## POST-GRADUATE TEACHING "ELEMENTS."

WE have referred on several recent occasions to the reorganization of medical teaching now taking place in the metropolitan medical schools along the lines suggested by the Royal Commission on University Education in London, and strongly advocated by Sir George Newman in his Memorandum on Medical Education. The essence of the new scheme is the establishment of professorial units, containing "elements" each consisting of a director with assistants; the desire is that as a general rule both the directors and their assistants should be whole-time officers. The scheme is having an effect in various directions, and we are glad to learn that the governing body of the London School of Tropical Medicine has taken advantage of the occasion presented by the removal of the school to Euston Square to bring their whole-time appointments into line with it. The duties of the staff of visiting lecturers remain practically unchanged, but whole-time directorships have been instituted in protozoology, helminthology, entomology, and tropical pathology, and the addition of other "elements" when funds permit is foreshadowed, among which tropical hygiene is specified. We may point out that if an "element" in clinical tropical medicine were added to the preceding subjects, it might be held to complete two full professorial units under the scheme. The action of the board of the Seamen's Hospital Society will undoubtedly excite much attention, for it is the first overt step yet taken towards the founding of a post-graduate medical unit in London. We join in the hope that it will receive the financial support which it deserves from the University Grants Committee now considering the needs and claims of the various educational bodies in this country.

## THE JOEL CHAIR OF PHYSICS.

IT was announced last week that Mr. S. B. Joel and his brother, Mr. J. B. Joel, have promised the sum of £20,000 for the endowment of a chair of physics in the Middlesex Hospital Medical School. This handsome gift should prove of benefit to the students in their preliminary training, for the principles of physics cannot be taught too well, and a good grounding in this subject is indispensable for the scientific attitude towards medicine. The endowment may also, it is to be hoped, stimulate research into

the applications of physics to medicine, and may bring about fruitful association in clinical work between the physicist on the one hand and the physician and surgeon on the other. The creation of a professorship of physics in a hospital medical school is an apt recognition of the need for closer association between pure science and medical practice. Long ago physics was called the handmaid of all the sciences, but its possibilities in the way of direct service in the diagnosis and treatment of diseases and injuries are only now being brought to light. When a discovery is made in physics it may be years before its bearing upon the sister sciences is unfolded. To take one instance, Roentgen discovered *x* rays in 1895, but while these rays were soon enlisted for diagnosis, their use in the treatment of disease was of slower growth. Hitherto it has been difficult to discern and test the medical application of a physical discovery because the physicist and the clinician have had few opportunities of intercourse and discussion. The reason for this is not hard to find. The interest to the discoverer of a new fact in physics lies in its bearing upon his own subject, how it may extend knowledge there, and what further fields of research it opens up. His interest in the application of the new fact to other sciences, and to the more remote art of medicine, is to him a secondary consideration. As a result the physician and surgeon do not often get new information in physics in the form in which they can most easily use it. For the advance of medical practice along this line the physicist should be in a position to recognize what is likely to be of service to medical science, and be willing to bring his facts to the notice of the practitioner in such a way that their application may be perceived. Such a physicist must be one with a real interest in medicine, and therefore ready to collaborate with the clinician and the pathologist. During the past ten years something of this kind has been done at the Middlesex Hospital, where researches have been carried out continuously into the use of radium in the treatment of disease. A large part of radium therapy depends upon the established fact that many kinds of cancer cell are more affected by radium emanations than are most of the healthy cells of the body. In order that this fact may be put to good account much research is still needed. The various types of electric current now used in diagnosis and treatment provide another field for co-operation between the physicist and the medical man. Thus, beyond its obvious value in the education of students, the professorship of physics at the Middlesex Hospital may lead to a wider recognition of the value of this fundamental science to medicine, and of the benefit to mankind of joint explorations upon the borderland of the two sciences.

## NO. 14 GENERAL HOSPITAL.

IN the earliest months of the war the Casino at Wimereux, overlooking the Channel, was transformed into part of a British military hospital, which became known throughout the army as No. 14 General. About the same time its neighbour, No. 14 Stationary, opened up at the Grand Hotel as the infectious diseases hospital for the Boulogne area, but moved into huts further inland after the building was burnt out at the end of 1915. No. 14 General outgrew the Casino and the adjoining hotel, and became one of the largest hospitals in France. For a part of 1915 its commanding officer was Lieut.-Colonel T. H. J. C. Goodwin, D.S.O., who within two and a half years rose to be Director-General of the Army Medical Service. During the five years of war vast numbers of patients passed through the wards, and very many medical officers served there for long or short periods. The work is now over, and the rooms of the Casino may already be returning to their former uses. A dinner of the staff was held in London, at the Victory Restaurant, on February 2nd, when a company of one hundred exchanged memories of the wonderful years of work and comradeship. The chair was appropriately taken by Lieut.-General Sir John Goodwin. The toast of "No. 14 General Hospital" was proposed by Sir Arthur Sloggett, who was D.G.M.S. in France throughout a large part of its career, and the Chairman responded. In response to a message of loyal greeting a telegram was received from the King expressing His Majesty's thanks to the staff of No. 14 General Hospital for their message "on the occasion of the dinner, which, under the presidency of General Goodwin, their former and distinguished Commandant, has reunited that noble band of men and women who ministered to the wounded and sick." The King visited the hospital in October, 1915, a few days before his accident. His message recalled this visit and congratulated the staff on their happy reunion, adding that "the same spirit of devotion and comradeship which animated their work in those days has brought them together this evening."

## WATER CHARGES FOR CAR WASHING.

SOME little time back we referred to the subject of charges for the supply of water for the purpose of washing cars, and this subject has again been raised by a correspondent, a medical man, practising in a North London suburb. He has kept two cars for several years, and has paid an extra charge for water used for the washing of a car. The Metropolitan Water Board now demand twice the amount he has hitherto paid, on the ground that two cars are kept, notwithstanding an assurance that both cars are never used on the same day. The position of water companies and the rates they may charge for water supply are governed by the Waterworks Clauses Act, 1847, and by the particular Acts under which each company is constituted and empowered. Under the Metropolitan Water Board (Charges) Act, 1907, the Metropolitan Water Board is bound under penalty to maintain within a certain area a supply of water for domestic purposes for which the consumer pays a water rate based upon the value of the premises supplied, and the Act defines the words domestic purposes as excluding (*inter alia*) the washing of carriages or other vehicles. Water to be used for extra domestic purposes may be supplied in two ways. Under Section 16 of the Act the Board may supply water for purposes other than domestic by meter, the rates varying with the amount consumed and the minimum amount payable for water supplied in this way being fixed at £1 a quarter. To meet the requirements of the small extra domestic consumer the Board is empowered by Section 24 of the Act to enter into agreements for water supply, providing the scales are of uniform application, and it is under one of these agreements that our correspondent is presumably being supplied. We can therefore only advise our correspondent, and any other reader who may be interested in this point, to refer to the terms of his agreement to see whether this double charge is justified or not. It should, however, again be pointed out, lest what we have said may give rise to any misconception, that the powers of each water company are regulated by its own special Act of Parliament, to which reference must be made in each case. What we have said of the Metropolitan Water Board will no doubt also apply to many other water companies, but there will be others whose powers are entirely different, and the only way of ascertaining what any given water company may or may not do is to refer to its Act.

THE current issue of the *Journal of the British Science Guild* contains an appeal to men of science to make larger use of the facilities the Guild offers. It commands access to the best available knowledge on matters of science, and its resources can be applied at any time to any desired end by the Executive Committee. Communications on subjects considered to require elucidation should be addressed to the Editor of the *Journal of the British Science Guild*, 6, John Street, Adelphi, London, W.C.2. The Guild numbers only 934 members, but it is hoped to increase the membership. The annual subscription is one guinea.

# Medical Notes in Parliament.

### The New Session.

THE Parliamentary Session, to be opened by the King in state on Tuesday next, will be largely occupied with measures which were heralded last session, but could not, owing to their complexity or on account of their controversial nature, be then proceeded with. Foremost amongst these is the Irish Government Bill, the principles of which were set forth by the Prime Minister just before the House of Commons rose in December. The condition of affairs in Ireland is, however, thought to raise a question as to whether a suspensory clause will be included, so as to make the operation of the provisions depend on circumstances, the decision in that case to rest with the Privy Council, or in other words, with the Government. It is on the vexed labour problems that the Cabinet may find the greatest difficulty in securing legislation to avoid troubles in the country, though Mr. Asquith's declaration against nationalization may considerably help them in getting moderate opinion to support their proposal for dealing with the coal mines on lines of joint management while leaving scope for individual enterprise. In the event of a threat of labour upheaval or refusal by labour of the suggested compromise, it is quite possible Mr. Lloyd George may appeal to the country, either by a general election against nationalization, or by a referendum on that issue. The agreement as to the railways will also require parliamentary sanction, and the bill to fix minimum hours of work and pay will be reintroduced.

An intimation that the Budget will be brought in early carries the reminder that this will in reality be the gravest matter before Parliament this session. Large additional expenditure has been sanctioned since Mr. Chamberlain said that if any such additions were made more taxation would be necessary. On the other hand, the reduction in the cost of the services has been made more drastically than was then thought possible, and the realization of materials held by the Ministry of Munitions has given a much greater yield than at one time was thought probable. The revenue of the country has also shown up better than was anticipated. The hope of the Chancellor of the Exchequer is that in the coming year expenditure and receipts may be brought to balance; but he has guarded himself against the assumption that this balance can be got without some fresh taxation. The exchange conditions, which are exciting so much anxiety, of course come prominently into this matter.

# Scotland.

## SCOTTISH BOARD OF HEALTH.

### *Consultative Councils.*

IN the Act which established the Scottish Board of Health provision was made for the setting up of Consultative Councils to advise and assist the Board in connexion with Scottish health matters. The constitution and functions of these councils were defined by an Order in Council of December 20th, 1919. The councils are four in number: (1) Medical and Allied Services, (2) National Health Insurance (Approved Societies' Work), (3) Local Health Administration and General Health Questions, (4) Highlands and Islands.

The appointment of the members of the Consultative Councils rests with the Board, and is now complete:

*Medical and Allied Services.*

ORLANDO CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S., Principal of the Royal (Dick) Veterinary College, Edinburgh, Vice-President of the Royal College of Veterinary Surgeons, and President of the National Veterinary Medical Association.
A. J. CAMPBELL, M.D., Secretary of the Berwickshire Local Medical and Panel Committees.
A. K. CHALMERS, M.D., Medical Officer of Health for the City of Glasgow.
D. ELLIOT DICKSON, M.D., Convener of the Fife Colliery Surgeons Committee.
J. R. DREVER, M.B., Scottish Medical Secretary of the British Medical Association.
MISS ANNIE W. GILL, Lady Superintendent of Nurses, Edinburgh Royal Infirmary.
JOHN GLAISTER, M.D., Professor of Forensic Medicine and Public Health in the University of Glasgow.
PROFESSOR MATTHEW HAY, M.D., Medical Officer of Health for the City of Aberdeen.
JOHN RUTHERFORD HILL, Esq., Resident Secretary of the Pharmaceutical Society in Scotland; Secretary of the General Council of Panel Chemists (Scotland).
SIR DONALD MACALISTER, K.C.B., M.D., Principal of the University of Glasgow; President of the General Medical Council.
JOHN YULE MACKAY, M.D., LL.D., Principal of the University College, Dundee.
SIR JAMES MACKENZIE, M.D., F.R.C.P., Clinical Institute, St. Andrews; Consulting Physician to the London Hospital.
SIR ROBERT WILLIAM PHILIP, M.D., F.R.C.P., Professor of Tuberculosis and Senior Lecturer on Clinical Medicine in the University of Edinburgh; President of the Royal College of Physicians, Edinburgh.
JAMES MAXWELL ROSS, Esq., M.B., C.M., M.B.E., Medical Officer of Health and Chief School Medical Officer for the County of Dumfries.
MISS LAURA STEWART-SANDEMAN, M.D., late Controller of Medical Services to Queen Mary's Army Auxiliary Corps, Overseas.
SIR HAROLD J. STILES, K.B.E., Regius Professor of Clinical Surgery in the University of Edinburgh.
F. TOCHER, D.Sc., Public Analyst for the County of Aberdeen, etc.; Honorary Secretary of the Association of Public Analysts of Scotland.
NORMAN WALKER, M.D., General Medical Council.
GEORGE WILLIAMSON, M.D., Chairman of Aberdeen Local Medical Committee.
JOHN A. YOUNG, L.D.S., Vice-President of the Odonto-Chirurgical Society of Scotland; Convener of the Public Health Committee, Edinburgh Town Council.

*National Health Insurance (Approved Societies' Work).*

This council consists of fifteen members, including three ladies.

*Local Health Administration and General Health Questions.*

This council consists of twenty members, including Dr. Thomas G. Nasmyth, formerly medical superintendent of Perth Infirmary and an ex-president of the Scottish Society of Medical Officers of Health, Lady Leslie Mackenzie, president of the Scottish National Association of Health Visitors and Women Sanitary Inspectors, and Mrs. Burns Laird, of the Scottish Labour Housing Association.

*Highlands and Islands.*

This council consists of fourteen members, including Dr. A. C. Miller, chairman of the Highlands and Islands Subcommittee of the British Medical Association, Dr. Donald Murray, M.P., late M.O.H. for Lewis, and Dr. James B. Simpson, vice-president of the Sutherland Nursing Association and secretary of the County Local Medical Committee. The council contains six ladies, including the Duchess of Atholl and Miss Margaret M. White, superintendent of Queen Victoria's Jubilee Institute for Nurses (Scottish Branch).

Each consultative council will appoint its own chairman. Mr. George A. Birse, Scottish Board of Health, 125, George Street, Edinburgh, will act as secretary to the councils.

## EAST OF SCOTLAND OVERSEAS MEDICAL CLUB.

Some time ago this club was formed for medical men who served overseas during the war. It now has a large membership. It was established for the purpose of maintaining alive the friendships forged under the stress of war, and to encourage the spirit of comradeship and mutual help amongst its members. The first annual meeting and dinner was held in Edinburgh on January 30th, 1920. There was a large and enthusiastic gathering. Sir Henry M. W. Gray, K.B.E., C.B., C.M.G., of Aberdeen, who was consulting surgeon with the Third Army in France, the first president of the club, occupied the chair. Professor Francis D. Boyd, C.B., C.M.G., was elected vice-president, and Dr. James Young, D.S.O., honorary secretary and treasurer. The following members of committee were appointed:—Edinburgh: T. F. Dewar, C.B., and Henry Wade, C.M.G., D.S.O.; Dundee: J. Anderson, D.S.O.; Aberdeen: T. Fraser, C.B.E., D.S.O.; Inverness: John W. Mackenzie, O.B.E.; South of Scotland: A. C. Mallace, M.C. It was decided to form subsections of the club in suitable districts in the east of Scotland. In giving the toast of the Club, the President said that one of the greatest functions would be to give opportunities of cementing friendships formed or strengthened overseas under conditions which brought out in many different ways what was real and worth knowing in men; and, further, that it would bring the friendship of other men who served in other areas and who proved their worth. He believed that this and similar clubs would be able to play an important part in raising the status of the profession, and that if properly used they might be of great value in moulding a wise opinion regarding the wider matters that concerned the community. The organization of the army had led to schemes that were of great benefit to the nation's soldiers. "We must take counsel together and decide upon schemes for the benefit of the nation's workers that shall be even more comprehensive and successful." Mr. Henry Wade, C.M.G., D.S.O., who was consulting surgeon with the Egyptian Expeditionary Force, proposed the health of the Chairman, and in doing so mentioned that though he and many others present had not served as colleagues of Sir Henry Gray in France, they had been largely

influenced in their surgical practice by his work. Many younger surgeons who had been trained by him had gone to the Eastern armies. Mr. Wade also referred to the great influence exercised by General Allenby in the East in fostering the most modern methods of treatment of the wounded as they had been practised in the Third Army by Colonel Gray.

### GLASGOW LIMBLESS HOSPITAL.

The third annual meeting of the Hospital for Limbless Sailors and Soldiers at Erskine was held on January 29th, when the Lord Provost was in the chair. Sir William Macewen said that at the present time about forty patients, after having put their artificial limbs to use, were receiving vocational training. The accommodation of the hospital would be better filled if the restrictions with regard to the admission of disabled men were diminished. The Ministry of Pensions and the Ministry of Labour both had plans which were excellent on paper, but rather complicated in practice. The machinery for getting the men back into work or training should be simplified. He recalled the fact that it was intended to bring back a considerable number of men who would be permanently housed and cared for at the Erskine Hospital, making it a second Chelsea.

# Ireland.

### IRISH PUBLIC HEALTH COUNCIL.

THE Irish Public Health Council held a series of meetings on January 20th, 21st, and 22nd, at which the chairman, Dr. E. Coey Bigger, presided, and the following members were present: Sir Henry A. Robinson, Bt., Sir John Moore, M.D., Sir William Thompson, Sir James Gallagher, Mrs. McMordie, Dr. W. J. Maguire, Mr. J. Drennan, the Rev. Father Kerlin, Mr. Edmund Bourke, Dr. E. F. Stephenson, Dr. Alice Barry, Sir Joseph A. Glynn, Mrs. M. L. Dickie, Lady Kenmare, and Dr. R. J. Rowlette. On January 20th the Council received a deputation representing the National Association of Approved Societies. Mr. Daniels (Chairman of the association) addressed himself chiefly to the need for providing an efficient medical service for insured persons and their dependants. If a system of medical benefits or treatment for insured persons were established in Ireland, considerable funds from insurance sources would be available towards financing such a medical service, but it was essential that it should not be in any way associated with the Poor Law medical service. Mr. Meller (Prudential Approved Society) attributed the undue incidence of sickness among insured persons in Ireland to the absence of a proper system of medical treatment. He advocated the provision of a medical service, free from any taint of pauperism, for insured persons and their dependants, including consultant and hospital treatment. Mr. Alexander (Presbyterian Approved Society) said that the insured in Ulster formed about half of the total insured population of the country. He concurred with the previous speakers in advocating medical treatment for insured persons and dependants with an efficient medical service to replace the existing Poor Law dispensary service. Mrs. O'Connor (Nurses' Approved Society) urged the necessity for a proper nursing service.

In the course of discussion, members of the deputation stated that the approved societies would consider favourably the question of allocating towards hospital and allied services, and for the treatment of dependants, part of any surplus funds which might be available after the forthcoming valuation. The deputation also agreed that there would be no objection to a medical service system under which insured persons would be treated by medical practitioners paid by salary or fees, and responsible also for the treatment of persons unable to pay. The Chairman, on behalf of the Council, promised sympathetic consideration of the views expressed.

Subsequently the Council, after discussion, arrived at important decisions concerning the following matters:

(*a*) The constitution of the proposed central health authority in Ireland.
(*b*) The functions to be entrusted to that authority.
(*c*) The constitution of county health authorities.
(*d*) The powers and duties of such authorities.
(*e*) The establishment of an Irish medical service which will provide medical treatment for insured persons (and if possible for their dependants) as well as for persons who are unable to pay.
(*f*) The reorganization and co-ordination of the hospital system in Ireland, with a view to providing treatment for the classes referred to in "*e*," not only in the county institutions but also in the voluntary hospitals in the larger cities.

These questions and previous decisions of the Council were referred to a drafting committee, consisting of the Chairman, Sir Joseph A. Glynn, and Dr. Rowlette, to be embodied in the report to be made by the Council to the Chief Secretary.

### THE PROPOSED STATE MEDICAL SERVICE IN IRELAND.

*Meeting of the Profession in Belfast.*

A meeting of the profession, called by Mr. R. J. Johnstone, F.R.C.S.Eng., chairman of the Irish Medical Committee, was held in the Medical Institute, Belfast, on the evening of January 30th. Mr. Johnstone occupied the chair, and Dr. David Gray acted as honorary secretary. There was a large and influential attendance.

Mr. Johnstone explained that the object of the meeting was to discuss matters and to let members of the profession know what was being done, so that they would not be taken unawares. The Irish Health Council was engaged in drafting a bill which would in all probability create a State medical service; and the profession was asked what class of cases should be included. An income limit of £150 a year had been mentioned. Again, what remuneration should be given in the service? It was proposed to do away with the Poor Law system, and that Poor Law dispensary doctors should be enrolled at salaries commencing at about £600 a year; they would be placed under county councils; entrance would be by examination; a large hospital would be built in each county; cottage hospitals in smaller towns; study leave, opportunity for advancement and for specialization, retiring allowances and superannuation, would all be included. The chairman also pointed out that the question of insurance benefits, of the inclusion of insurance patients, and of the confusion between the State medical service and the panel system—all called for debate. A system that suited the rural districts of the Midlands, South and West, would not suit the industrial centres of the North. Some 95 per cent. of eight or nine hundred Poor Law medical officers had signed a memorandum some years ago in favour of a State medical service. The Irish Medical Committee could not pledge the profession without consulting them.

After a long and instructive discussion, which was conducted with good humour and consideration, it was finally agreed to appoint a representative committee to go into the matter and report to a future meeting. The difficulties of the insurance benefits, of the inclusion of insurance cases, of fixing a limit of income for the inclusion of cases, the determination that any State medical service should not be simply a glorified Poor Law dispensary system; the difficulties as to inclusion of dependants of those on strike, of differentiating a single man from the married man with a large family, were all clearly pointed out. On the other hand, it was felt that a *non possumus* attitude should not be adopted. An ideal was in the air, and "prevention" was the keynote of the Ministry of Health. The following committee was appointed:

*Convener:* Dr. Wm. Burns; *Members:* Drs. Osborne, Irvine, Gardner Robb, Sir John Byers, R. J. Johnstone, McPolin, McElroy, Wm. Calwell (York Street), McSparran, S. H. White, Williamson, Trimble, T. Davidson, J. R. Davison, Samuel Davidson.

### ULSTER MEDICAL SOCIETY.

The fifth meeting of the session was held on January 29th, in the King Edward Memorial Hall, Royal Victoria Hospital, Belfast. The President, Mr. Andrew Fullerton, C.B., C.M.G., F.R.C.S., occupied the chair. Dr. W. W. D. Thompson acted as secretary. The Chairman referred to the deaths of Dr. G. A. Hicks and Dr. Jamison, both members of the society, which had taken place since the last meeting. Votes of condolence with their relatives were passed.

*Treatment of Fractures.*

The Chairman then introduced Major M. Sinclair, C.M.G., R.A.M.C., who gave a demonstration of the most recent methods for the treatment of fractures by Thomas and other splints.

Major Sinclair first demonstrated how a Thomas splint should be applied to fractures of the lower limb, before the patient was removed from the spot where the accident occurred; extension could be obtained at once by passing a heavy skewer horizontally through the sole of the boot and fastening this to the cross-bar at the lower end of the splint. He then enumerated the various methods of applying extension in hospital, and expressed his preference for painting the unshaved leg with the special glue he had devised, and then applying a long strip of gauze bandage on each side of the leg and fastening these to the lower end of the splint; other methods were to drive special screws into the upper end of the tibia or to fix callipers to the condyles of the femur, or to the external and internal malleoli. By these methods no shortening resulted in the fractured limb; indeed, if care were not taken, lengthening might be produced. Major Sinclair showed devices for obtaining external and internal rotation of the foot, where necessary, and also methods of bandaging which would restore the antero-posterior curvature of the femur. In compound fractures the limb was always bandaged by the "sectional" method; packets containing sterilized gauze dressings, short strips of bandage and clips being used. The wound was treated solely by hydrogen peroxide and sterile saline, and the gauze dressing applied; the leg was bandaged in sections with the short strips fastened along the anterior surface by the clips; thus any area of the limb could be inspected or dressed without removing the whole bandage and splint.

Major Sinclair then showed a large abduction splint or frame used for the treatment of fractured femurs and also for wounds of the lumbar and gluteal regions, or for pelvic cases; the patient was slung up to the frame by a series of hammock-like nettings, and with the help of pulleys could raise himself and thus facilitate nursing. With the ordinary Thomas splint a system of pulleys was useful, so that the patient could, by very little effort, suspend himself in mid-air while the bed was being moved and an arm-chair put in its place; thus accidents through slipping or fainting were avoided, as the patient gradually got accustomed to being up after his long period in bed. Splints for the arms were also shown; one, for the wrist and hand, caused much interest and amusement; by adjusting a series of springs and side-pieces the interphalangeal, metacarpo-phalangeal, and carpal joints were given freedom of movement in succession.

At the close of the demonstration, Professor Sinclair, C.B., proposed a vote of thanks to the lecturer, and said that he had, while acting as consultant in France, utilized Major Sinclair's methods and had brought the surgeons working under him to Major Sinclair's wards at Wimereux for instruction. He commended the methods demonstrated to the careful consideration of the practitioners in the North of Ireland, and hoped that future generations of medical students of the Belfast Medical School would continue to benefit by Major Sinclair's work. The Chairman, in conveying the vote of thanks, said that the society was also deeply indebted to the War Office for having allowed Major Sinclair to give a most remarkable and interesting demonstration.

On the following evening Major Sinclair gave a similar demonstration to a crowded meeting of medical students attending the university. On this occasion lantern slides were also used, depicting the results obtained. Major Sinclair's visit has stimulated an interest in the treatment of fractures in the North of Ireland which cannot fail to produce good results.

EXAMINATION IN OPHTHALMOLOGY.

At the meeting of the Ulster Medical Society on January 29th the following resolution, proposed by Professor J. A. Lindsay and seconded by Dr. J. McCaw, was passed unanimously:

> That, in the opinion of the Fellows and Members of the Ulster Medical Society, it is essential that a clinical examination in ophthalmology, conducted by ophthalmic surgeons, be part of the final qualifying examination for medical degrees and diplomas as heretofore in all Ireland. This seems absolutely necessary if ophthalmology is to retain the position its importance entitles it to in the education of the future medical profession of this country.

# England and Wales.

PRESENTATION TO DR. W. STANGER, WAKEFIELD.

DR. W. STANGER, F.R.C.S., J.P., who retired from practice and from the chairmanship of the Wakefield Panel Committee at the end of last year, was entertained at dinner at the Strafford Arms Hotel, Wakefield, on January 28th, by the members of the Panel Committee. After the dinner Dr. Stanger was presented with a cheque in appreciation of his services as Chairman of the Committee. He was for many years one of the honorary surgeons of the Wakefield Clayton Hospital, and holds a high place in the esteem both of the medical profession and of the general public in Wakefield.

MEDICAL REUNION DINNER AT HEREFORD.

On January 22nd the members of the Herefordshire Division of the British Medical Association and other practitioners in Hereford entertained at dinner their medical colleagues who left the country to serve in the Forces during the war. The dinner was held at the Imperial Café, Hereford, with Dr. Dryburgh Gold, chairman of the Division and county M.O.H., in the chair; the Mayor of Hereford was present. The toast of the "Fighting Forces" was proposed by Dr. John Steed (Staunton-on-Wye), and Major Llewellyn Green, D.S.O., who served as a combatant with the 1st Herefords in Gallipoli, replied. The toast of the evening, "Our Medical Guests," was proposed by the Chairman, who expressed the pleasure of those who had remained behind in welcoming their service colleagues back to civil life. The toast was responded to by Lieut.-Colonel J. McK. Harrison (Ledbury), Lieut.-Colonel Herbert Jones, Captain W. Ainslie, M.C., and Major C. J. Caddick, D.C.M.S., Ministry of Pensions. The concluding toast, that of the "Medical Profession," was submitted by Dr. R. Harding (Radnorshire), and Dr. Paul Chapman and Dr. Edgar Morris replied. The arrangements for this most successful evening were made by Dr. E. H. Baldock, honorary secretary of the Division. Representatives were present from nearly all the theatres of war.

LIVERPOOL WOMEN STUDENTS.

Some seventy past and present students attended the dinner of the Liverpool women medical students held recently at Liverpool under the chairmanship of Dr. Phoebe Bigland. The guests of the evening were Miss Frances Ivens, M.S., and Miss Adami, the daughter of the Vice-Chancellor of the University of Liverpool. Miss Ivens, in replying to the toast of the guests, said that medical women must take their share in the great schemes of reconstruction and reorganization. She suggested that students should devote themselves to scientific research and so assist in the advancement of medical knowledge. Miss Adami conveyed a message from the Vice-Chancellor of the University wishing the dinner all success and hoping it would be an annual function in university life.

# India.

THE MEDICAL INSTITUTIONS OF JAIPUR.

THE native State of Jaipur, Rajputana, which has contributed so loyally and liberally in men and money to the prosecution of the late war, has long been conspicuous, under enlightened and philanthropic rule, for the cultivation of art, the encouragement of industry, the promotion of education, the improvement of public health, and the supply of means of medical relief. The annual report for 1918 on the medical institutions of the State, compiled by the Superintendent Rai Bahadur Assistant Surgeon Daljang Singh Khanka, M.B., supplies evidence of the commendable attention paid to sanitation and the prevention and treatment of disease. The report includes information as to meteorology, vital statistics, dispensary administration, gaol hospitals, and lunatic asylums. Weather has in India a vital influence on the welfare and health of the population. The rainfall in 1918 was deficient, but not so scanty as to cause scarcity of food or famine. Malarial diseases were not so prevalent or fatal as in wetter years. The birth rate was below and the death rate above the average. The latter rate was

for the city of Jaipur 72.97 per 1,000. Infantile mortality is high. There was no cholera or small-pox in the State, but plague and influenza were deadly. Of plague, 18,150 cases and 17,479 deaths were returned from fifty-three villages, and 1,199 cases and 1,196 deaths were reported in the Jaipur city. Strenuous preventive measures, including evacuation, segregation, disinfection, and inoculation were adopted. The epidemic subsided in June. Numerous deaths were caused by influenza, which was of a virulent type. Twenty-nine hospitals and dispensaries were open during the year, in which were treated 208,393 outdoor and 3,253 in-patients; 9,356 operations were performed. Detailed information recorded regarding the work of these institutions indicates good and successful work. Special arrangements are made for the treatment of females, including cases of labour, normal and abnormal. The death-rate in the gaols was 49.21 per 1,000, and in the lunatic asylum 41.2. The report, which, with elaborate appended tables, is a very creditable production, has been printed by the Jaipur gaol press.

### Influenza.

Recent reports afford evidence that a recrudescence of influenza is threatening. At Karachi a relief committee has been formed to deal with an outbreak of influenza and pneumonia; eight doctors have offered their services, fifty volunteers have enrolled for relief work, and a fund has been established to provide medicines and warm clothing. Owing to the occurrence of influenza on troop-ships it has been decided to reduce the number of homeward-bound ships by 25 per cent.

### Medical Research.

The annual report of the Scientific Advisory Board of the Indian Research Fund Association shows that although the war has interfered with the activities of the association much work has been accomplished; the programme for 1920 is comprehensive, including investigations with regard to influenza, ankylostomiasis, leprosy, and kala-azar. Yellow fever is to be investigated by a committee of experts appointed by the Government of India.

# Correspondence.

## "A PLEA FOR THE TONSILS."

Sir,—On page 562 of your issue of November 1st, 1919, there is a review of Professor K. H. Digby's *Immunity in Health*. Although, at the time of writing, I have not had the pleasure of reading this book, your review makes it clear that it is, especially at the present juncture, of more than ordinary importance.

I am fully in agreement with Professor Digby's view that the lymphatic tissue of the tonsils and appendix is functional and not vestigial. In the *Journal of Anatomy and Physiology*, vol. xxxv, pages 83 to 100, I arrived at the following conclusions:

Lymphoid tissue is the characteristic feature of the caeca apex.

As the vertebrate scale is ascended, this lymphoid tissue tends to be collected together into a specially differentiated portion of the intestinal canal—the vermiform appendix.

The vermiform appendix of man is not, therefore, a vestigial structure. On the contrary, it is a specialized part of the alimentary canal.

So far as I am aware, this was the first time the vestigial view of the vermiform process had even been seriously challenged. Its lymphoid character has since been uniformly adopted by every scientific writer—usually without acknowledgement—whilst the unscientific writers still quote the Noachian writers on comparative anatomy as to the vestigial nature of the vermiform process.

Professor Digby, according to your review, goes on to remind us that these glands (tonsils, Peyer's patches, and appendix) are largest and most active in young children at a period when individuals are acquiring immunity to the various common infections, while in old age all lymphatic structures tend to atrophy. These facts I had the privilege—in conjunction with Dr. L. A. H. Lack—of pointing out to the first International Congress of Anatomists at Geneva in 1905, and subsequently published in the *Journal of Anatomy and Physiology*, vol. xl, pp. 247 to 256. Amongst the deductions were the following:

The amount of lymphoid tissue present at the caecal apex varies most probably, though not certainly, in accordance with the varying diet of the animal.

The vermiform appendix of man is not, therefore, either a vestigial remnant or an organ in a state of retrogression, but is an actively functional lymph gland.

The appendix of man is not equally functional throughout the whole of life. Lymphoid tissue is a tissue of the growing animal.

The functions of the human appendix are the same as those of any other collection of lymphoid tissue in any other part of body.

That the significance of these facts has too long been ignored by the profession is amply demonstrated by Professor Digby, as also by the following facts which have recently been brought prominently under my notice as the result of my more recent work on the diagnosis and causation of mental deficiency, now in the American press.

Chronically enlarged circumpharyngeal lymphoid tissue may interfere with breathing and so diminish the supply of bodily oxygen. The cell body of the neurone is peculiarly sensitive to deprivation of oxygen. Imperfectly developed neurones necessitate mental backwardness, even to gross mental deficiency. A community of mental defectives will not only breed criminals and prostitutes, but cannot make good the ravages of war, nor can it hope to survive in that greatest of all struggles—the struggle for existence.

That such national effects do really follow such natural causes is fully proved by the recent investigation of Dr. Waite in hookworm disease in Queensland, published in the *Medical Journal of Australia*, January 4th, 1919. The hookworm, by preying on the haemoglobin, reduces the bodily supply of oxygen, and "produces in growing children severely arrested mental development and considerable mental sluggishness."

The direct outcome of the results of such a blighting disease, which is preying upon 40 per cent. of the total school population from Cooktown to Townsville, and which is stamping serious mental, physical, and sexual degeneracy upon 25 per cent. of the total school population, can be nothing other than the weakening of the social fabric and the unfitting of the coming generation for the struggle for existence. Indeed, the tendency of the disease, if not controlled, is toward the obliteration of the race through the unsexing of its victims. . . . To the economic loss from social inefficiency must be added the wasted educational effort of 4,000 teachers, with an expensive plant, trying to carry along 40 per cent. of relative mental deficients and mental laggards among their classes.

In conclusion, I desire to congratulate Professor Digby on the production of an important work, and your reviewer for his presentation of the same. My own claims to priority in much of the subject matter must, I think, be admitted, but would not even now have been pressed were it not for the great importance of what are thought superficially to be trivial facts. We have yet much to learn regarding lymphoid tissue, and I can only regret that the pressure of routine teaching work and the chronic lack of scientific, financial, and other assistance have compelled me to lay aside my own researches into the matter. For those who come after it is, perhaps, not too much to hope that they will at least commence by a study of the literature of the subject.—I am, etc.,

Richard J. A. Berry,
Professor of Anatomy.

University of Melbourne,
Dec. 15th, 1919.

## THE TREATMENT OF MALARIA.

Sir,—Controversies on the intravenous and intramuscular as compared with the oral administration of quinine are of great interest to those who have served in malarial countries, but they must tend to confuse the practitioner who has not experienced the delights of Macedonia or Mesopotamia. There is, I think, general agreement that in an ordinary case of malaria, uncomplicated by vomiting, the first indication is a mercurial purge and a dose of aspirin, with or without brandy. When the sweating stage begins large doses of quinine (15 grains thrice a day) by the mouth are given. Three days is probably long enough to continue this. If, however, the temperature does not come down, or if there is persistent vomiting, there should be no hesitation in giving 20 grains intramuscularly once or twice daily (into the buttock, just below the iliac crest, seems to be the safest place). If even this fails, then one of the arsenic compounds, such as galyl, should be given intravenously.

As to the vexed question of continuing the administration of quinine for some weeks or months, I feel sure that very few of the medical men who themselves have malaria take quinine for more than a few days after an attack.

The *rationale* of giving quinine by intramuscular injection when oral administration fails appears to be that in certain circumstances quinine given by the mouth is not absorbed properly. The risk of quinine necrosis is not negligible, but is infinitely less than the risks of the disease in a case which is bad enough to require intramuscular treatment.

Finally, I would emphasize that a most important part of the treatment is to use every endeavour to get the patient into as good a state of health between the attacks as possible, particularly by such tonics as iron and arsenic, good and abundant food, and moderate exercise in the open air—bearing in mind the myocardial weakness invariably present after malarial pyrexia. In certain cases a bottle of stout daily appears to be of the greatest value.—I am, etc.,

Sheffield, Jan. 27th. R. K. ROBERTSON.

## TICKS AND RELAPSING FEVER.

SIR,—I can corroborate clinically the description by Dr. Nicholson of a type of pyrexia, relapsing in character, associated with a spirochaete in the blood, and giving a different clinical picture from the well known relapsing fever due to louse infection, as described in Colonel Balfour's "Memorandum on Mediterranean Diseases." This was repeatedly seen by me among Egyptian natives and British soldiers in the Upper Nile Valley in 1916, and among British soldiers in the 44th Stationary Hospital, Kantara, Palestine Base, in 1917, 1918, and 1919, admitted locally. After the third battle of Gaza, when our troops were on the move fighting in the Judean hills, I noticed, at the end of December, 1917, and subsequently, that a different type of fever was being admitted to hospital from Palestine. In some the temperature was normal on arrival, and the diagnosis had been "Pyrexia N.Y.D.," the men having been admitted to hospital up the line with a primary fever lasting about four days; either the blood films were negative or no blood examination had been made owing to military conditions. The weather in Palestine at that time was very cold and wet. After being in hospital a few days convalescing, the temperature would suddenly shoot up and then become normal in twenty-four hours or less. Spirochaetes were found in the blood of some but not in others.

A major of Australian Light Horse had had such a primary attack up the line; blood films were negative. He arrived at the hospital a week later, and about three days afterwards he had a relapse; the fever lasted about fifteen hours, but the blood film was again negative. He was transferred to the 14th Australian General Hospital, Port Said, where he had several similar relapses; blood examinations were made on each occasion, but it was only at the end of at least six weeks that spirochaetes were found in his blood.

Other patients arriving with other than medical conditions would suddenly develop pyrexia between 102° and 103° F., lasting for four days, falling by crisis; these primary attacks developed in the hospital, and spirochaetes were found in the blood. These primary cases were not acutely ill like the typical cases of relapsing fever infected by lice.

The interesting clinical features about the relapses were:

1. The short duration of the pyrexial attack; it usually lasted fifteen to twenty-four hours, and was represented on the temperature chart by a "spike." So well recognized did this "spiky" temperature become by the medical officers of the hospital, that a provisional diagnosis of "Palestine relapsing fever" would be made pending blood examination.

2. Spirochaetes were scanty and often difficult to obtain in a blood film. This was well exemplified in the case of the Australian major above mentioned.

3. Irregularity of relapse, varying from seven to ten days.

The interesting fact was that nearly every one of these patients definitely stated that he had been bitten by "brown bugs." Most of them had been sheltering in caves in the Judean hills, and in the morning they would find those "brown bugs" filled with blood crawling over them. There were also marks of insect bites on various parts of their bodies. They stated that the retreating Turks had been occupying these caves before them. The incubation period seemed to be about seven or eight days.

Colonel Balfour is inclined to doubt the existence of a tick-borne relapsing fever in Palestine, but there is no doubt but that what these patients called a "brown bug" was a tick, and that it was the infecting agent. I have no doubt that Major Austen, D.S.O., British Museum, Entomologist E.E.F., Major Manson Bahr, D.S.O., Dr. Woodcock, and others can assure him on this point.

To me clinically the louse-borne and the tick-borne were two different types of disease. Salvarsan, intravenously, was always a cure.—I am, etc.,

JOHN W. MACKENZIE, O.B.E., M.D.Edin.,
Late Lieutenant-Colonel R.A.M.C.T.F.,
O.C. 44th Stationary Hospital, Kantara, Egypt.

## COMMISSIONS, I.M.S.

SIR,—It may be of interest to state, in reference to "Enquirer's" question (p. 168) concerning the prospects of a recruit meditating a permanent commission, some salient points which are at present giving those already in the service much perturbation of thought.

I had the honour during the late war to serve for two and a half years on a staff composed of I.M.S. and R.A.M.C. officers with an I.M.S. chief who is one of the most capable men in his service. I am still closely in touch with many serving in the I.M.S., and therefore, though my service was but temporary, I feel I can voice in some small measure their feelings and doubts, which are:

1. The placing of Europeans under an Indian Minister.
2. That successful administrative work brings more "plums" than successful professional efficiency.
3. The uncertainty of the future pending possible amalgamation or unification of the R.A.M.C. and I.M.S. in the East.
4. The parsimoniousness of the Indian Government in the equipment of station hospitals and feeding of troops.

As a result of this parsimony, sickness is likely to be increased (vide the conclusions reached by Colonel W. H. Willcox in his striking article in your JOURNAL of January 17th). It is not encouraging to serve under a Government which will not appreciate the principles of preventive medicine even when taught by bitter experience.

My advice to "Enquirer" would be that, if he is content to be a bachelor, India will give him happy days and the chance of good experience, both professional and administrative, but if he is a marr ed man he will possibly rob himself of some of the openings because of the expense of having to keep two homes going in India for part of every year and another in England if he has children.

The I.M.S. has a friend in the present Secretary of State for India, but there have been others, and there may be again, who take but little interest in seeing that this fine service is allowed to go about its work in a contented and settled frame of mind.

Hard work in a trying climate ages men prematurely, and everything should be done to make conditions as good as possible with a view to preventing this premature old age, so that when an officer retires he may have a reasonable chance of living to enjoy his deferred pay in the way of pension for a much longer span than what is now the case.—I am, etc.,

FRANK BRYAN,
Ipswich, Feb. 1st. Late temporary Captain R.A.M.C.

SIR,—Men in the I.M.S. must have noticed the movement in the right direction which has taken place during the past year or so, and that movement is due, I might almost say entirely, to the energy put forward by the BRITISH MEDICAL JOURNAL and the Army and Navy Committee, of which Colonel Elliot, I.M.S., is chairman.

The position of the service at the present moment is a debatable one, and men in it may differ as to what may be its fair dues.

I am sure most of us agree with all Colonel Elliot has stated in his letters in the JOURNAL. The attitude we

should be prepared to take is to play fair with the Secretary of State for India until he has had time to fulfil his promises and, if necessary, even to revise his original ideas when asked to do so.

Those in the service who were fortunate enough to be at the I.M.S. dinner, held last June, will agree when I say that the support which Colonel Elliot and his Committee have from the service was most strikingly illustrated by the way in which Colonel E liot was called upon by the dining members to express his views. I appeal to the service to continue that support, and feel sure it will be crowned with a great success.—I am, etc.,

February 3rd. FAIRPLAY.

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SIR,—Having been granted a permanent commission in the I.M.S. a few weeks prior to the offer of temporary commissions I would like to ask whether it is right that the temporary officer should have so many advantages over the regular officer. The former has got the privilege of leaving after two years' service; passages for himself, wife, and family, there and back, after this short service; no compulsory obligation to learn Hindustani, and also is to receive 700 rupees a month, compared with 550 rupees a month in the case of lieutenants and 750 rupees to 700 rupees in the case of captains. From the letter of Lieut.-Colonel Elliot I learn that the Secretary of State is allowing this temporary service to count towards permanent service by those who elect to remain permanently in the I.M.S.

Surely an injustice is being done to the regular officer unless, dating from the time of offer of temporary commissions, his rate of pay is made either equal to, or more than, the temporary officer, since in two years' time the latter may decide to take on a permanent commission, and will then rank just as though he took such a permanent commission now, but will have been receiving 150 rupees a month more pay for two years. The other alternative is not to allow the time spent as a temporary officer to count for permanent service—that is, towards promotion or pension.

Permanent officers are badly wanted, according to all accounts, but where lies the benefit of obtaining a regular commission *now*, under the existing circumstances?—I am, etc.,

January 31st. "DISAPPOINTED."

*** We referred this letter to the Chairman of the Naval and Military Committee of the British Medical Association, who replies as follows:

SIR,—In one respect I would wish to differ from "Disappointed": He would level down, I would level up. Let me explain. The British Medical Association has told the Secretary of State that he cannot get the permanent recruits he wants unless he adds 50 per cent. to the *total* pay of I.M.S. officers. To avoid misunderstanding, it has been stated that this calculation is to be based on a table laid down by the Secretary of State, and one therefore as to which there can be no misunderstandings. Certain other requirements have also been stated. A time limit has been fixed, and at the end of that period the very serious question of future action will be considered. If the requirements of the British Medical Association are not satisfied, it is quite clear that the Association can no longer adopt a neutral attitude; but sufficient unto the day is the evil thereof. We hope and most sincerely desire that such a serious situation will not arise. If it does, the Association will not be found unready. There is thus good hope for the permanent officer; he may rely on the full backing of his just claims. Has "Disappointed" taken the trouble to keep himself *au fait* with all that the British Medical Association has been doing for the Service? If he has, he must surely have been aware that the Association is *not* recommending young medical men to enter the I.M.S. as permanent officers, and will not do so until it feels that the conditions of service are good enough. He will be well advised to get his commission changed from a permanent to a temporary basis, and so in two years' time see whether permanent service is good enough.—I am, etc.,

R. H. ELLIOT,
Lieut.-Col. I.M.S.(ret.),
Chairman Naval and Military Committee,
London, W., Feb. 2nd. British Medical Association.

## FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—I hold that fresh air, good feeding, with well-regulated rest, exercise, and occupation in healthy country surroundings, tend to lessen psychasthenia, to cure neurasthenia, and to confirm and perpetuate the improvement rapidly produced in hysteria by many varieties of psycho-therapeutical treatment. This view has the support of common sense and of many centuries of experience; it is thus a marvel to me that any one, even in the ranks of our self-satisfied wonder-workers, should think it untenable.

Dr. Hurst is mistaken if he supposes that I have any antipathy to psycho-therapy, or that I would wish him or any one else to reject all he has learnt about the psycho-neuroses during the last five years. I would point out, however, that such knowledge, if of value, was familiar to others before that period, for no discovery of importance in this connexion has been made during the war; as I always held and first stated in the *Lancet* of November 18th, 1916 (Farquhar Buzzard came independently to the same conclusion about the same time), war neuroses, "shell shock," etc., are only examples of the long recognized disorders hysteria, neurasthenia, and malingering, either singly or in combination.

Psycho-therapy by suggestion, explanation, persuasion, and re-education has been made use of consciously or unconsciously since the days of Hippocrates, and all the psychological methods (including those initiated by Freud before the war) which were used at Maghull, and later at Seale Hayne, etc., have been employed by many physicians for years past.

What Dr. Hurst and his supporters will, I hope, learn in the next five years (when they have had more experience of the later phases of war neuroses) is that removal of individual symptoms of such a protean disease as hysteria, does not necessarily imply cure of the elusive pathological disorder of brain cells and synapses which is at the root of the trouble.

Psycho-therapy I have always recommended and used as a means of removing the gross evidences of hysteria, but natural forces such as rest, good feeding, fresh air and suitable occupation, provided by the Country Host scheme, are necessary to confirm the improvement brought about by psycho-therapy and to render it lasting—that is, to effect "cure," a word only to be used tentatively, after a patient has resumed his ordinary life and has remained well for at least a year since all treatment ceased.—I am, etc.,

London, S.W., Jan. 31st. THOMAS LUMSDEN.

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SIR,—We have read with great interest Dr. A. Carver's article in the BRITISH MEDICAL JOURNAL of January 10th, as we have felt for some time the need of such an article. For five years the doctrine of "forget" and "turn your back on the past" has been preached by the vast majority of the profession. With what result? To-day there are more ex-soldiers suffering from war neuroses than there were on Armistice Day! It was with keen disappointment, therefore, that we read Sir Robert Armstrong-Jones's letter in the BRITISH MEDICAL JOURNAL of January 17th; since, whilst we are fully aware of his position as a psychiatrist, our experience leads us to differ from him when the treatment of the psycho-neuroses is under discussion. He questions whether it is possible to "forget" by an act of volition. We do not hold that it is possible, but "forgetting" is frequently accomplished without conscious volition, as in the case of the hysterical amnesia which is so commonly met with. Again, Sir Robert Armstrong-Jones considers that

> The investigator must himself possess an actual and true photographic record of the actual battle scenes, otherwise the effect is purely that of suggestion.

This is a complete fallacy, since it is not the physician who does the recalling, but the patient, and the former makes no suggestion whatever, even of the most indirect nature.

We do not consider that the imaginary cases which Sir Robert Armstrong-Jones describes are entirely analogous to the war neuroses. The first of these cases—that of the patient with "acute mental restless depression"—he calls a psychosis, his treatment of which we should therefore not for one moment dare to question.

Has the "disappointed girl who has become a mental and moral wreck on account of the broken promises of her

faithless lover" succeeded in forgetting the circumstances? If so, then—on Sir Robert Armstrong-Jones's theory—she ought to be cured. If, on the other hand, she has not forgotten them, does he consider that she would be well again if she developed an amnesia for these events? In our view she would then be suffering from a well recognized symptom of hysteria—that is, she would be a psychoneurotic. Perhaps it is considered that she should merely direct her thoughts into other channels (sublimation), but before she can do this it is necessary for her to exercise conscious control over her thoughts and emotions, and this cannot be done by closing her eyes to them and pursuing the "ostrich policy." It is this same "conscious control" that the modern psycho-neurologist seeks to substitute for repression, by familiarizing the patient with his or her memories so that they can be faced with equanimity.

Did not the nervous actor and the sensitive musician merely give way to a perfectly natural fear on the occasion of a certain appearance, and was not this fear consciously controlled instead of being repressed and forgotten? Where, may we ask, is the analogy in this case?

With regard to the young man who has been dealt with as a first offender and is trying to reconstruct his life, it is not stated whether he is suffering from a psychoneurosis. But whether he is or not, will he not be likely to bring himself again within the toils of the law if he succeeds in forgetting that incident? It would surely be better for him to remember the consequences of his former ill-doing that he may profit by experience and shape his course of life differently in the future.

It has for long been our daily experience to see men who have been trying to "forget," and to find distraction for periods of time up to four or five years. We have not yet found a single one who has succeeded without the development of a psycho-neurosis having supervened, and this in spite of the aid afforded by various employments and distractions designed for that end, such as rural surroundings, agricultural work, country homes, etc., even when continued for many months. It is also very noticeable to any observer, either professional or lay, that men enjoying mental and physical health, whether wounded or otherwise, can talk about their war experiences with equanimity, and invariably do so when several of them get together. On the other hand, those who cannot talk about their experiences without showing emotion, and who, in fact, will not discuss their personal experiences in the war, will be found to show symptoms of a psychoneurosis of greater or less degree. Since the aim of all treatment, no matter what the disability, is to restore the patient to the normal, we should endeavour to make the psycho-neurotic like unto those others who can calmly discuss their experiences, however terrifying.

It is not within the scope of this communication to discuss the technique of treatment, but we would venture to point out:

1. That it is the patient, and not the physician, who must recall.
2. That a mere recitation by the patient of his experiences is useless.
3. That it is essential for the patient, when recalling the incidents, to let out the emotion which he has previously been repressing.
4. That for any claim to a cure to be valid the patient must have been given a thorough insight into his own condition and the psychic causes of his disability.

—We are, etc.,

C. H. L. RIXON,
D. MATTHEW,
Neurologists, Ministry of Pensions Neurological Hospital, Exeter.

January 30th.

## "NEW LAMPS FOR OLD" IN OBSTETRICS.

SIR,—Once again the old cry of labour being a perfectly natural process is raised. True, Dr. Shirlaw refers to normal labour, and if he defines a normal labour as one that is perfectly natural there is no more to be said, but with every advance in midwifery, anaesthetics, antiseptics, forceps, pituitary extract, the same cry is raised, that it is not right to interfere with nature.

But is a confinement to-day a perfectly natural process? Are not the time, the pain, the mental and physical exhaustion, all the results of our civilization? Unnatural, too, are many of the woman's surroundings—her house, her bedroom, her bed. Many of the conditions that influence her health prevent labour being an entirely successful process if left wholly to nature. Among such conditions are overwork and worry, insufficient healthy exercise, improper feeding and clothing. Then those deformities of the pelvis that are secondary to disease or hereditary would, without any artificial assistance, render many confinements impossible or very damaging; in a perfectly natural state these patients would in time have been eliminated, but now science and art and heredity preserve them and enable them to reproduce and multiply their like, so that in course of time the surroundings and innate conditions of civilized woman compel midwifery to be more "meddlesome."

It is obvious that the more civilization interferes with nature the more necessary is it to compensate for that interference.—I am, etc.,

Bradford-on-Avon, Feb. 1st. CHAS. E. S. FLEMMING.

## PROPHYLAXIS AND VENEREAL DISEASE AMONGST THE ANZACS.

SIR,—The latest manifesto issued by the National Council for Combating Venereal Disease, and widely published in the press, infers that "the amount of venereal disease has materially increased" as the result of prophylaxis propaganda, "vide the incidence among the Australian troops, starting as it did at 130 per 1,000, and rising to 147 per 1,000 as compared with the British troops incidence of 38 per 1,000."

Venereal disease did not start at 130 per 1,000 per annum, which was approximately the number to which it was reduced towards the end of 1918. In 1914, 1915 and 1916 it was very much higher, because the system of disinfection was new and undeveloped.

The official figures for 1917 and 1918 were published in the report of the Interdepartmental Committee to the Ministry of Health in August, 1919 (page 5, Table C), and they are as follows:

| | (*a*) United Kingdom. | | (*b*) France. | |
|---|---|---|---|---|
| | Average Weekly Admissions. | Ratio per 1000 per Annum. | Average Weekly Admissions. | Ratio per 1000 per Annum. |
| Three months ending— | | | | |
| Sept. 30, 1917... ... | 200 | 167 | 231 | 101 |
| Dec. 31, 1917 ... ... | 190 | 150 | 158 | 69 |
| March 31, 1918 ... | 189 | 176 | 181 | 78 |
| June 30, 1918... ... | 126 | 133 | 134 | 58 |
| Sept. 30, 1913... ... | 131 | 132 | 116 | 55 |
| Dec. 31, 1918 ... ... | 152 | 147 | 115 | 65 |

The rise in the figures for the United Kingdom and for France in March, 1918, was due to the congestion of troops in the Channel ports, owing to railway disorganization during the retreat of the Fifth Army. Progress was not maintained in the December, 1918, quarter because of the armistice and the Christmas leave, and short supply of medicaments.

The United Kingdom figures are bad compared with those for France because, although we had a good system, we did not provide adequate means for carrying it out. Better provision was made in France—particularly in Paris—and the rate fell from 101 per 1,000 in September, 1917, to 55 per 1,000 in September, 1918.

The New Zealand Division considered officially that in August–September, 1918, the system of prophylaxis (by distribution of packets, etc.) was being fairly well administered in France, and they therefore ordered one of the senior medical officers to examine all men returning from leave, on arrival at field ambulance, to detect venereal infections, from August 20th to September 20th—thirty-two days. The following was the result:

United Kingdom infections: Belfast 1, Manchester 2, Bournemouth 1, Gloucester 1, Leeds 1, London 19; total 25. France infections: Beauval 1, Arry 1, Bertrancourt 1, Etaples 1, Rouen 1, Paris 1; total 6. Total for thirty-two days, 31.

Thus the New Zealand Division's experience corroborated that of the Australian Divisions—namely, that 60 per cent.

of the infections came from London, and that with the development of disinfection achieved in France we were within measurable distance of reducing venereal disease to a negligible quantity.

The statement that the incidence of venereal disease among British troops was only 38 per 1,000 is not correct, and the rate is not comparable with the figures given above. In the British army there was much concealment of disease, and we believe it is established that the overseas rate of infection was never so high as that of the English Army of Occupation in the early part of 1919.—We are, etc.,

ETTIE A. ROUT,
Hon. Sec., N.Z. Volunteer Sisters.

H. WANSEY BAYLY,
Hon. Sec., Society for the Prevention of Venereal Disease.

## HONOURS.

### ORDER OF THE BRITISH EMPIRE.

A SPECIAL Supplement to the *London Gazette*, January 30th, 1920, announces the following appointments to the Order of the British Empire (Civil Division) for valuable services rendered in or in connexion with military hospitals, Territorial hospitals, war hospitals, auxiliary and civil hospitals, command dépôts, convalescent camps, or on other duties of a similar nature in the United Kingdom in connexion with the army during the war:

*K.B.E.*

James Frank Colyer, F.R.C.S.

*C.B.E.*

George Blacker, M.D., Charles Bolton, M.D., F.R.S., C. Hubert Bond, M.D., J. Walter Carr, M.D., Miss Helen Chambers, M.D., David Drummond, M.D., Edward P. Furber, M.R.C.S., Miss Florence B. Lambert, M.B., Hugh Lett, F.R.C.S., Thomas Lewis, M.D., F.R.S. T. D. Lister, M.D., the late Cecil R. C. Lyster, M.R.C.S., Lawrie H. McGavin, F.R.C.S., H. J. Paterson, F.R.C.S., John Sinclair, M.D., Sir T. Rudolph Hampden Smith, Bt., F.R.C.S., James Taylor, M.D., R. A. Young, M.D.

*O.B.E.*

Lieut.-Colonel W. G. P. Alpin, M.D., W. Dunlop Anderson, M.B., Thomas Baker, M.R.C.S., T. W. N. Barlow, M.D., J. H. Barnard, M.D., J. S. Boden, M.B., J. G. Boon, L.R.C.S., C. H. Bubb, L.D.S., Miss Winifred F. Buckley, M.R.C.S., W. F. R. Burgess, M.D., A. C. Burrows, L.R.C.S., C. T. T. Comber, M.D., Richard Dagger, M.D., R. G. Davidson, M.B., W. H. Dickinson, M.B., L. G. Dillon, M.D., M.S., G. C. Garratt, M.D., H. W. Gell, M.B., T. P. Gostling, M.R.C.S., E. C. Greenwood, M.R.C.S., J. Z. Hanafy, M.R.C.S., Arthur Hawley, M.B., K. R. Hay, M.B., W. Hern, M.R.C.S., H. T. Herring, M.B., R. J. B. Howard, M.D., F.R.C.S., Richard Humphreys, M.B., W. Warwick James, F.R.C.S., W. H. Jewell, M.D., H. Jossé Johnson, M.B., R. Nelson Jones, M.R.C.S., J. E. Kilvert, M.R.C.S., P. C. W. Laws, L.M.S.S.A., K. A. Lees, F.R.C.S., R. M. Hutchinson-Low, M.B., H. M. McCrea, M.D., Niel McDonald, M.B., W. F. McEwen, M.B., Miss Ethel M. Magill, M.B., C. J. L. Mansel, M.D., Major A. E. Morison, F.R.C.S., Enoch Moss, M.D., R. A. Murray, M.D., G. E. Newby, F.R.C.S., G. Northcroft, D.D.S., W. J. C. Nourse, F.R.C.S., J. Irwin Palmer, M.R.C.S., A. H. Parrott, L.D.S., J. L. Payne, M.R.C.S., G. J. Peacocke, M.D., J. P. Philip, M.D., E. T. Pinhey, M.B., J. F. Porter, M.D., T. G. Prosser, M.R.C.S., J. A. Reed, M.B., P. J. Rendall, M.D., B.J. Rodway, L.D.S., R. A. Rowlands, M.D., Harrington Sainsbury, M.D., O. B. Shelswell, M.R.C.S., Miss Amy Sheppard, M.B., G. K. Smiley, M.B., J. A. Southern, M.R.C.S., G. S. Stansfield, M.R.C.S., R. de S. Stawell, F.R.C.S., H. W. M. Strover, M.B., E. G. Thomas, M.D., R. Turner, M.B., W. Turner, M.D., M.V.O., J. O. D. Wade, F.R.C.S., A. H. Warde, M.R.C.S., James Alexander Wilson, M.D.

*M.B.E.*

T. Cuming Askin, M.D., R. T. Bailey, M.R.C.S., F. W. H. Bigley, M.D., W. T. Blackledge, M.B., Major J. FitzG. Blood, M.D., E. M. Brockbank, M.D., T. W. Chaff, M.R.C.S., P. M. Chapman, M.D., A. C. Clarke, M.D., Ch.B., J. Craig, M.B., J. B. Cruickshank, M.B., Major G. H. Darwin, M.D., J. H. Fardon, M.R.C.S., C. H. Ferguson, M.B., Lieut.-Colonel M. Gamble, M.D., C. F. Hadfield, M.D., J. Stirling-Hamilton, M.B., Captain E. W. Hedley, M.D., G. E. Helme, M.B., J. Brierley Hughes, M.B., G. A. Hutchinson, M.R.C.S., Miss Catherine M. Ironside, M.B., T. H. Jamieson, M.B., W. J. Lindsay, M.D., W. McClelland, M.B., G. MacGill, L.R.C.S., Mary Campbell, Mrs. Mackie, M.B., J. C. MacWatters, M.R.C.S., F. W. Melvin, M.D., W. Struthers Moore, M.D., J. G. Moyles, M.B., M. M. Murphy, L.R.C.P., H. T. Nixon, M.D., John Noble, M.B., S. J. Palmer, M.D., W. H. Prentice, M.D., John Rust, M.R.C.S., J. W. Stenhouse, M.B., J. S. B. Stopford, M.D., Professor W. Thelwall Thomas, F.R.C.S., T. H. Sanderson-Wells, M.D., H. B. Woodcock, M.B., F. Wallace Wilson, M.R.C.S., Richard Wyse, M.D.

The following appointments to the Order of the British Empire (Military Division) are announced in recognition of services rendered whilst prisoners of war or interned:

*O.B.E.*

Majors Wright Mitchell, R.A.M.C., and Frank S. Park, C.A.M.C. (attached 4th Battalion Canadian Mounted Rifles) Captain Thomas W. Leighton, R.A.M.C.(T.F.).

*M.B.E.*

Assistant Surgeons Edwin Brook Holt and Harold Arthur T. Wells, I.M.D.

*Military Cross.*

Temporary Captain William J. Maloney, R.A.M.C., has been awarded the Military Cross in recognition of gallant and distinguished services in the field.

*Mentioned for Services.*

The names of the following officers have been brought to the notice of the Secretary of State for War, in accordance with the terms of Army Order 193 of 1919, for valuable services whilst prisoners of war or interned. They belong to the R.A.M.C. unless otherwise indicated.

Lieut.-Colonels E. F. E. Baines, I.M.S., P. H. Collingwood.

Majors W. R. O'Farrell, J. Startin, and W. I. Thompson.

Captains R. C. Clifford, D.S.O., M.C., I.M.S., W. H. R. McCarter, S. S. Meighan (T.F.), L. Murphy, C. E. Redman, A. Sutcliffe, W. Warburton.

Temporary Captains H. M. Gilbertson (attached Somerset Light Infantry), A. J. Gilfillan, R. W. Hodgson-Jones (attached Royal Irish Fusiliers), J. L. Jackson, A. T. I. Macdonald, E. A. Walker.

The name of temporary Captain I. C. MacLean, D.S.O., M.C., R.A.M.C. (died), has been brought to the notice of the Secretary of State for War for gallant and distinguished services rendered in the field.

## The Services.

### GREENWICH HOSPITAL PENSIONS.

INSPECTORS-GENERAL of Hospitals and Fleets William H. Lloyd, M.D., K.H.S., and Thomas Browne, M.D., have been awarded the Greenwich Hospital Pension of £100 a year from February 4th, 1919, and October 12th, 1919, respectively, in the vacancies created by the deaths of Inspectors-General James W. Fisher, M.D., and Adam B. Messer, M.D., K.H.P.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

PROFESSOR ARTHUR THOMSON, M.A., M.B., Professor of Human Anatomy in the University, has been elected to a Studentship at Christ Church.

### UNIVERSITY OF CAMBRIDGE.

AT a congregation held on January 30th the following medical degrees were conferred:

M.B., B.CH.—W. G. Marsden, D. L. Spence.

### UNIVERSITY OF MANCHESTER.

*Chair of Physiology.*

THE Council has appointed Mr. A. V. Hill, O.B.E., M.A., F.R.S., to the Chair of Physiology, vacant through the resignation of Professor Stirling. Mr. Hill was a Scholar of Trinity College, Cambridge, was Third Wrangler in 1907, and was placed in the first class in Part II of the Natural Science Tripos (Physiology) in 1909. He was George Henry Lewes Student; Walsingham, Gedge, and Rolleston Prizeman. In 1910 he was elected to a Fellowship at Trinity College, and in 1916 was elected a Fellow of King's College. In 1918 he became a Fellow of the Royal Society. During the war he obtained the rank of major in the Cambridgeshire Regiment, and was appointed Director of the Anti-Aircraft Experimental Section of the Munitions Invention Department. The inventions which he made proved of the greatest value in the scheme of defence against attack from the air. He has made valuable researches on the physiology of voluntary muscle.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary Comitia of the Royal College of Physicians of London was held on January 29th, at 5 p.m., the President, Sir NORMAN MOORE, Bt., being in the chair.

*Members.*

The following candidates, having passed the required examinations, were admitted as Members:

James Beatty, M.D. Dublin; Thomas Izod Bennett, M.B. Lond., L.R.C.P.; Richard Christopher Clarke, M.D. Bristol, L.R.C.P.; Edgar Leigh Collis, M.D. Oxf., L.R.C.P.; Neil Hamilton Fairley, M.D. Melb.; Dorothy Christian Hare, M.D. Lond.; Geoffrey Marshall, M.B. Lond., L.R.C.P.; Stanley Graham Ross, M.D. McGill; Kerr Simpson, M.D. Edin.; Reginald Hugh Simpson, M.D. Lond., L.R.C.P.; Arthur Theodore Todd, M.B. Edin.; Sibyl Ibbetson Welsh, M.D. Lond.

*Diplomas.*

Licences to practise Physic were granted to 65 candidates who had conformed to the Bye-laws and Regulations, and passed the required examinations.

Diplomas in Public Health were granted, in conjunction with the Royal College of Surgeons, to 15 candidates.

*Council.*

The following were elected Councillors on the nomination of the Council: Dr. W. H. R. Rivers, Dr. S. Monckton Copeman, Dr. T. H. Arnold Chaplin, Dr. John Fawcett, vice Sir Henry Davy, Dr. W. Essex Wynter, Dr. James Taylor and Dr. Herbert Spencer, who retired by rotation.

*Lectures.*

The President announced that he had appointed Dr. F. W. Andrewes to be Harveian Orator, and Dr. R. C. Wall to be Bradshaw Lecturer for this year; that the Council had appointed Dr. Martin Flack to be Milroy Lecturer for 1921; and that the Censors' Board had awarded the Oliver-Sharpey prize for 1920 to Professor Emil Roux, of the Pasteur Institute, Paris.

*Mitchell Lecture on Tuberculosis.*

It was decided that the interest on the sum of £500 presented by Mr. Mitchell through Sir Edward Malins for the advancement of the knowledge of tuberculosis should be devoted to providing for a triennial lecture on tuberculosis, the lecturer to be appointed by the President and Censors.

*Diploma in Tropical Medicine.*

The revised regulations for the Diploma in Tropical Medicine and Hygiene and the revised syllabus for the examination adopted by the Committee of Management of the Conjoint Examining Board was approved. The course of instruction required in future will be not less than three months, and must include practical instruction in pathology, protozoology, helminthology, entomology, bacteriology, and hygiene in relation to tropical medicine, and clinical practice in a hospital recognized for the study of tropical diseases. Graduates in medicine and surgery of Indian, Colonial, and foreign universities recognized by the Conjoint Board in England, whose degrees are not registrable in this country, may enter for the examination on fulfilling the same conditions in relation to study.

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SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

SURGERY.—*†Aspinwall, *†C. G. Bunn, †N. D. Dunscombe, *G. E. Rae, *†G. K. Reeves.
MEDICINE.—*†J. G. Barrie, †N. D. Dunscombe, *†A. H. El Rakshi, *J. Kendall, *W. E. Neale.
FORENSIC MEDICINE.—A. H. El Rakshi, C. T. Gasking.
MIDWIFERY.—A. H. El Rakshi, A. Keilin, G. E. Rae.
* Section I. † Section II.

The Diploma of the Society has been granted to Messrs. C. G. Bunn, N. D. Dunscombe, and G. K. Reeves.

# Obituary.

## DAVID GOYDER, M.D. ST. ANDREWS,

Consulting Physician, Bradford Royal Infirmary.

DR. DAVID GOYDER of Bradford died on January 27th, in his 91st year. He was the son of the Rev. David Goyder of Accrington, where he was born in December, 1829. Having obtained a diploma of the British Pharmaceutical Society, he decided to study medicine, and entered as a student at Anderson's College, Glasgow. He graduated M.D.St. Andrews in 1860 and took the diploma of L.R.C.P. Edin. From 1862 to 1871 he worked in partnership with the late Dr. Samuel Brown of Bradford, after which he began practice on his own account with great success. About the year 1903 he restricted himself to consulting practice. Dr. Goyder took great interest in the work of the British Medical Association, was an ex-president and ex-secretary of the Yorkshire Branch, of which he was also a vice-president and for some years its representative on the Central Council. He was also a member of the old Parliamentary Bills Committee and of other committees of the Association. He was one of the founders in 1863 of the Bradford Medico-Chirurgical Society; he held the office of president, and on the completion of twenty-five years in the capacity of its secretary the members of the society presented him with his portrait by Mr. Ernest Sichel. On the occasion of his 80th birthday, in 1909, Dr. Goyder was entertained by his professional brethren at a dinner presided over by Mr. T. Pridgin Teale, of Leeds.

Dr. Goyder was greatly interested in philanthropic and public work; he assisted in the founding of the Bradford Nurses' Institution, and as its secretary for a quarter of a century was largely responsible for its sustained usefulness. He was honorary consulting physician to the Bradford Royal Infirmary, to which institution his elder son, Mr. F. W. Goyder, F.R.C.S., is honorary surgeon.

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DR. EDWIN LINDSAY DUNN, late medical superintendent of Berkshire Asylum, Wallingford, died on January 22nd, after several weeks' pain and suffering endured with patience and fortitude. He was the son of the late Mr. Robert Dunn, of Dunfield, Waterside, Ireland, was born in 1865, and received his early education at Foyle College, Londonderry. After being an intermediate exhibitioner in 1879, 1880, and a matriculation exhibitioner R.U.I. in 1881, he entered Trinity College, Dublin, as first junior exhibitioner in 1882. He graduated B.A. with honours in classics and English literature, and then entered upon the study of medicine. He was resident pupil at Dr. Steevens's Hospital, clinical clerk and surgical dresser at Sir Patrick Dun's Hospital, Dublin, and prosector to the University Anatomist. He graduated M.B., Ch.B. in 1887. He became assistant house-surgeon to the Children's Infirmary, and assistant surgeon to the Liverpool Dispensary, and afterwards was appointed assistant medical officer at the West Riding Asylum, Wakefield. There he made several contributions to medical literature, and at the Psychology Section of the annual meeting of the British Medical Association at Nottingham in 1892 read a valuable paper on paranoia. He was a member of the Medico-Psychological Association, a member of many years' standing of the British Medical Association, and a member of the Reading Pathological Society. He was appointed senior A.M.O. and deputy medical superintendent of the Berkshire Asylum, Wallingford, in 1894, and on the death of Dr. Murdoch succeeded him as medical superintendent. While at Trinity College he rowed for the University Boat Club, was a member of the University fifteen, and played for the Wanderers' Club. His recreations in later life were shooting, fishing, and golf. He was an enthusiastic Freemason, and became Worshipful Master of the St. Hilda Lodge, Wallingford, in 1890. His good-humour and interesting talk made him very popular; the visiting committee of the asylum were all his personal friends, and he was beloved by his patients and staff. He was unmarried.

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THE death took place on December 29th, 1919, of DR. PETER FRASER, late of Carnarvon, at the age of 55. Dr. Fraser graduated M.B. at the University of Edinburgh in 1886, taking his M.D. and B.Sc. degrees three years later. After practising in Llangefni, he became medical officer for Carnarvonshire and parts of Denbigh and Merioneth. In 1908 he went to Lushai as a medical missionary, proceeding in 1915 to North-Eastern Assam where he was medical officer to a large group of tea gardens. Dr. Fraser acquired a very extensive knowledge of tropical diseases and his devoted work on behalf of the native population was untiring. His strenuous and self-sacrificing life out in India eventually proved too much for his strength. He returned to England in November.

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DR. WILLIAM PATRICK O'MEARA, of Southampton, who died suddenly on January 23rd, aged 53, received his medical education at the Ledwich School of Medicine, Dublin, and obtained the Scottish triple qualification in 1889. He took great interest in public affairs, had been vice-chairman of the Southampton Board of Guardians, and was appointed a magistrate in 1906. At the Southampton Police-court, on January 23rd, the Mayor referred in appreciative terms to Dr. O'Meara's work as police surgeon for twenty-six years and on the bench. Dr. O'Meara was a member of the Southampton Division of the British Medical Association. He is survived by his widow, one son, and a daughter.

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COLONEL ROBERT DAVIDSON MURRAY, Bengal Medical Service (retired), died in London, after an operation, on January 12th, aged 68. He was educated at the Inverness Royal Academy and at Edinburgh University, where he graduated with honours in 1873. He entered the I.M.S. as surgeon on March 31st, 1875, passing into Netley first,

and passing out second, and became colonel in March, 1905, retiring in March, 1910. He served in the Burmese war in 1886–87, taking part in the operations of the 1st Brigade, was mentioned in dispatches, G.G.O. No. 434 of 1887, and received the medal with a clasp. Except for this war service, he spent thirty years in civil employment in Bengal, where he held the posts of first resident surgeon of the Presidency European general hospital, Calcutta, and the civil surgeoncies successively of Jessore, Nadiya, Champarun, Gya, and Howrah, till in August, 1898, he was appointed Professor of Surgery in the Calcutta Medical College and first surgeon to the Medical College Hospital. On promotion to the adminstrative grade he was appointed Inspector-General of Civil Hospitals in the North-West Provinces and Oudh, and a member of the Legislative Council of these provinces. After his retirement he was honorary secretary of the Indian Empire Club, from its foundation, about ten years ago, till his death. Colonel Davidson Murray married a daughter of the late Surgeon-General George Mackay, I.M.S., by whom he is survived, with three daughters and three sons; the latter served with distinction in the war.

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CAPTAIN FRANCIS JAMES SPILSBURY, R.A.M.C., died on October 11th at the S.M.S. Hospital, Headington, Oxfordshire, aged 57. He was educated at St. Bartholomew's Hospital and at Edinburgh, and took the L.R.C.P.I. in 1887 and the L.R.C.S.Ed. in 1892, after which he went into practice at Hogsthorpe, Lincolnshire, where he held the appointments of medical officer and public vaccinator of the Hogsthorpe district of the Spilsby Union, medical officer to the Post Office and to the Board of Education, and Admiralty surgeon and agent. He took a temporary commission as lieutenant in the R.A.M.C. on October 16th, 1916, and was promoted to captain after a year's service.

# Medical News.

BEFORE beginning the first of his Lettsomian Lectures, published at p. 179, Dr. Herbert Spencer said that in the portrait group which adorns the wall of the Medical Society's room in which the standing figure of Lettsom is prominent, there was represented seated Charles Combe, obstetric physician to the General Lying-in Hospital. Combe, he said, published one of the finest editions of the works of Horace, with a most admirable index. In order that the Fellows of the Medical Society might have the opportunity of consulting it, Dr. Spencer offered for their acceptance a copy of the 1792 library edition. He went on to point out that the first Lettsomian lecture on an obstetric subject had been given sixty-six years ago by Professor E. W. Murphy, a predecessor of his own in the Chair of Obstetric Medicine at University College; in it Murphy dealt with education in the practice of midwifery, a subject arousing much lively interest to-day.

THREE Hunterian Lectures will be given during the course of next week at the Royal College of Surgeons of England, by Mr. H. Tyrrell Gray, on Monday, on the influence of nerve impulses on gastro-intestinal disorders; and by Mr. James Sherren, on Wednesday, on late results of surgical treatment of chronic ulcers of the stomach and duodenum; on Friday Mr. Walter G. Spencer will give the first of three lectures discussing the historical relation between experiments on animals and the development of surgery. Professor G. Elliot Smith, M.D., F.R.S., will give the first of two Arris and Gale Lectures, on the evolution of the cerebellum, on Friday, February 20th, when the origin of the cerebellum will be discussed. The second lecture, on Monday, February 23rd, will be devoted to the mammalian cerebellum, and the meaning of the changes that transformed a primitive reptilian cerebellum into the mammalian organ will be considered, along with the morphology and functional significance of the cerebellum in the various mammalian orders. The lectures are delivered at 5 p.m. on each day.

ON the occasion of the retirement of Dr. Robert Milne from the position of Chief Medical Officer of Dr. Barnardo's Homes after forty years' service in that capacity a framed address has been presented to him by the council of the homes, and also, on behalf of the united staff, a gift comprising an illuminated album bearing the names of over 500 subscribers, a first-grade bicycle, and a cheque (to be subsequently increased) for eighty guineas.

PRINCESS BEATRICE has appointed Mr. Douglas George Rice-Oxley, M.C., M.B., to be Surgeon-in-Ordinary to Her Royal Highness.

A QUARTERLY meeting of the Medico-Psychological Association of Great Britain and Ireland will be held on February 24th at the house of the Medical Society of London (11, Chandos Street, W.1), under the presidency of Dr. Bedford Pierce, at 2.45 p.m., when Dr. R. H. Steen will read a paper on chronic hallucinatory psychosis.

THE amount of the Mary Putnam Jacobi fellowship, which the Women's Medical Association of New York City is offering for award to a woman physician for post-graduate study in any country for work in any medical science is 800 dollars (approximately £200, not £2,000, as printed last week). Full particulars can be obtained from Dr. Murrell, 86, Porchester Terrace, London, W.2.

A SERVICE in memory of the late Sir William Osler was held at Christchurch Cathedral, Montreal, on Sunday, February 1st. It was attended by the faculties and students of McGill University. Dr. Symonds, vicar of the cathedral, conducted the service, in the course of which he referred to Sir William Osler's profound effect on student life during his career at McGill University, and his subsequent interest in everything connected with that university. Sir William Osler left his personal library to McGill University, and for its reception a special memorial room is being prepared, in which also will be placed the urn containing his ashes.

AT the last meeting of the Royal Edinburgh Physical Society Captain Basil Spence, R.A.M.C., a member of the Sudan Sleeping Sickness Commission, gave an account of recent observations on the prevalence of sleeping sickness in Africa and of the measures taken to control its spread. The first case in the Lado Enclave occurred in 1910, and later in the same year a serious outbreak was discovered in Yei; in 1913 it was identified in Kajo Kaji. From 1909 onwards cases continued to crop up in the Bahr-el-Ghazel amongst immigrants from the French Congo. In 1914 it was ascertained that there was a serious epidemic in the French Congo along the Mboma River, and that natives from the Sudan were in the habit of going there on visits. In the following year a small force from the Sudan, accompanied by many natives, operated along the Mboma River; the force returned to the Tambura district of the Sudan, and in 1916 and 1917 many natives of the French Congo began to emigrate into the Sudan. In the spring of 1918 Yuz Nueb Bey, a civil medical officer of the Egyptian army, discovered a serious epidemic in and about Tambura. In order to cope with it patients were collected into a village specially built for them; roads were made through the district, rest houses built, maps and road reports compiled, a census taken, and a systematic inspection made of the inhabitants in Tambura and the district. Communication between the French and Belgian Congo with neighbouring parts of the Sudan was only permitted under very stringent regulations. In 1918 and 1919 876 cases in all were notified.

THE London County Council is making application to the Ministry of Health for the issue of regulations similar to those made in view of the influenza epidemic of 1918, and it asks that they should cover other infectious diseases, and should be made without delay so as to be applicable at once should influenza become epidemic. The previous regulations provided that an entertainment should not be carried on for more than three hours, or in cinematograph halls four hours, and that there should be an interval of half an hour between any two entertainments during which the premises could be ventilated. The Theatres and Music Halls Committee, however, has expressed the view that an adequate system of mechanical ventilation in which the fresh air admitted is warmed is a necessity.

DURING the extreme shortness of petrol, early in 1918, when many motorists were endeavouring to use coal gas as an alternative, the Automobile Association offered a prize of £1,000 for the best system of enabling coal gas to be satisfactorily used. The gas bag had not proved satisfactory, and the conditions of the competition proposed an installation capable of carrying, under compression, a charge of coal gas sufficient to run a medium-powered touring car a distance of fifty miles. The space to be occupied by the gas containers was not to exceed 19 cubic feet and their weight to be not more than 140 lb. The apparatus was not to cost more than £20, and the expense of establishing and working the plant for charging the containers was not to add more than 3d. to the cost of an amount of gas equal to a gallon of petrol. So far no device fulfilling the requirements has been submitted.

SATISFACTORY progress has been made with the arrangements for the Australasian Medical Congress which is to be held at Brisbane, Queensland, from August 23rd to 28th. Sectional secretaries have been appointed from Queensland, and local secretaries in each of the other States. There will be eleven sections, as at the last congress, which was held in Auckland, New Zealand. The intention was that the Congress should meet in Brisbane in 1917, but the war and the large participation of the Commonwealth in it made postponement necessary. As already announced, the chief subject for discussion will be the question of permanent settlement of a working white race in tropical Australia. The meeting in Brisbane has the cordial support of the Queensland Branch of the British Medical Association and of the Federal Committee of Branches in Australia.

THE Metropolitan Life Assurance Company of New York, which in 1916 gave one hundred million dollars to the National Association for the Study and Prevention of Tuberculosis for an experiment in the control of tuberculosis in the town of Framlingham, Massachusetts (a typical American community), during a period of three years, has, we learn from the *Boston Medical and Surgical Journal*, resolved to provide funds for the continuance of the experiment. It was considered that the most effective method of control would be early detection of tuberculosis and the hygienic care of persons affected or threatened. In the first year 42 per cent. of the new cases were of an advanced type, in the second year 16 per cent., and in the first five months of the third year 22 per cent. Contemporaneously the tuberculosis death-rate fell from 0.93 per mille to 0.79 per mille, but this fall can hardly be looked upon as a result of the experiment.

# Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

## QUERIES AND ANSWERS.

W. K. L. describes the case of a young soldier recently demobilized after service in France, India, and Mesopotamia, who suffers from profuse sweating in the axillae, chiefly at night. The parts have been shaved, and lemon and boracic powder applied, without avail. He asks for suggestions.

"COLONIAL SERVICE."—We cannot ascertain that there is any institution in London for the care of young children whose parents are abroad.

## LETTERS, NOTES, ETC.

### THE TERTIUM QUID.

DR. J. F. GORDON writes: A patient who, on my advice, had consulted one of our leading Liverpool specialists asked me why his fee for consultation was £3 3s. when she had previously paid £2 2s. I answered her that her case must have been one that is called the "Tertium quid." She simply smiled, ejaculated "Oh!" remarked that he had not called it that, asked no further questions, and apparently was quite satisfied.

### A NEEDLE IN THE ALIMENTARY CANAL.

DR. W. M. FELDMAN (London, W.) writes: The interesting memorandum by Dr. Heywood Smith in the BRITISH MEDICAL JOURNAL for January 17th reminds me of a similar case. Some fifteen years ago a child about 1½ years old was brought to me by the mother because it cried each time it tried to evacuate its bowels. On rectal examination I found a small needle stuck point downwards in the wall of the rectum immediately above the anus. I removed this and the condition was cured. The mother then told me that a couple of days earlier she was doing some needlework and the child was looking on. She then left her work on a chair for a few minutes, and when she came back missed the needle. She asked the child where the needle was, and it pointed to its mouth. She, however, attached no importance to it, and the finding of the needle in the rectum came as a surprise to her. There were no subsequent bad effects, and the child is now a healthy lad 17 years old.

### PERICRANIAL EFFUSION OF BLOOD.

DR. WALTER FISHER (Kalene Hill, Northern Rhodesia), writes: Early in October, 1919, a native boy about 10 years of age was injured by the fall of a sun dried brick (about 4 lb. in weight) from a height of about 8 feet on to the back of his head when he was working in a stooping position. He was only temporarily stunned, and a small abrasion found was dressed. He seemed none the worse and went to his work as usual, but on the third or fourth day his head began to swell, and he was sent here (five days' journey) in a hammock. On arrival the large size of his head was abating, but he did not appear ill, and the temperature was only slightly above normal. The head was not tender, but in each temporal region there was fluctuation extending forwards into the frontal region, and slight fluctuation on the top of the head; in the occipital region where there was a healed abrasion the surface was normal. An exploring needle thrust into the swelling revealed blood, which under the microscope was fresh. We decided that an exploratory operation was useless, and sent him back. On visiting this station ten days later the swelling was twice the size, being more prominent in the frontal region; it still consisted of pure blood. The boy went about as usual and had no headache. We hear that the swelling has decreased and that he is now nearly well. Did the blow cause a fracture injuring one of venous sinuses, and may we conclude that callus has in some way aided in the repair of the vein?

### COLD WATER AND ANTIPYRETIC DRUGS.

DR. H. S. REYNOLDS (Upwell, Wisbech) writes: During the year 1886 I reported to the BRITISH MEDICAL JOURNAL from Cradock, Cape Colony, South Africa, the satisfactory result of treating an epidemic of enteric fever complicated with hyperpyrexia by cold-water baths. I had previously tried antipyretic drugs, such as quinine disulphate, in large doses, which I found only increased the complications by causing cinchonism. In the epidemic of influenza in 1918 and 1919, the great complications being hyperpyrexia and pneumonia, I followed the same course of treatment by the cold bath, except that in cases in which the patient's friends feared the drastic treatment I had recourse to cold sponging or sheets wrung out of cold water continually, which causes a lot more work and is not so effective, although I am thankful to say I did not lose one life. The late Sir William Osler, when addressing a meeting of the British Medical Association on fever in 1894, condemned the use of antipyretic drugs and extolled the use of the cold bath. An alcoholic stimulant previous to a bath is advisable, and in children I started with tepid water, gradually cooling it, keeping them in the bath till the temperature was down, independent of shivering.

### DURATION OF PULMONARY TUBERCULOSIS.

MAJOR P. HEFFERNAN, I.M.S.(ret.), Tuberculosis Officer, West Derbyshire, writes to question statements made by Dr. Baskett in the BRITISH MEDICAL JOURNAL of January 10th and in an editorial article in the same issue, with regard to the average duration of pulmonary tuberculosis in the individual. In both places it was assumed that the mortality in any year was due to disease contracted on the average two years previously. Major Heffernan thinks there is no specialist in tuberculosis and no tuberculosis officer who would agree with the statement.

### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 42, 43, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 39, 40, and 41.

THE following appointments of certifying factory surgeons are vacant: Long Melford (Suffolk), Salford and Stretford (Lancaster), Shrewsbury (Salop).


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